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ON THE RELATION OF GOUT TO RHEUMATOID ARTHRITIS.

Abstract of the opening remarks to a discussion before the Northwest London Clinical Society, on Feb. 15, 1899.[1]

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THE leading note in my few remarks will be that the relation between gout and rheumatoid arthritis is rather accidental than essential, and that when the two affections happen to combine this conjunction is but one of the many varieties included under the broad heading of rheumatoid arthritis.

The relationship between gout and rheumatoid arthritis may be profitably considered from two points of view: the purely theoretic or pathologic aspect, including their etiology and their morbid anatomy, and the practical or clinical aspect, which is concerned with the natural history of the diseases, with their diagnosis and with the results of their treatment; and it is only from a joint study of all these aspects that we can hope to derive any true insight into the relation which may exist between them.

It would be impossible to deal systematically with so large a subject; but out of it arise a few definite questions to which I may at once venture to call your attention. I submit to you the following:

(1) Are gout and rheumatoid arthritis directly antagonistic, so as to exclude each other; or, are they capable of affecting the same subject?

(2) If they are not mutually exclusive, are they capable of actually co-existing; or, can they only occur at an interval of time in the same individual?

[1] Furnished by the author for publication in the INTERNATIONAL MEDICAL MAGAZINE simultaneously with its publication in London.

(3) If the relation is one of sequence rather than of co-existence, does rheumatoid arthritis pass into gout; or, is it gout which may lapse into rheumatoid arthritis?

(4) The remaining questions are those of diagnosis and of treatment, a discussion of which cannot fail to be of practical use.

THE PATHOLOGIC UNCERTAINTY AS TO RHEUMATOID ARTHRITIS.

Whilst gout, in spite of the obscurity of its etiology, is probably for all of us a sufficiently definite clinical unit, and whilst we are all probably agreed as to its material basis, I am not confident that under the name of rheumatoid arthritis we all recognize a thoroughly well-defined and uniform disease. Yet some general agreement as to the meaning of the term is essential.

Most of us have probably been struck with the variety of conditions included under that name, and with the number of theories which have been put forward, and this must incline us to suspect that we may have to deal not so much with different phases and with different presentments of a single disease, as with different affections, among which at least two, and probably three or more, separate diseases will ultimately be isolated.

Looking specially at the clinical aspects, I have long been impressed with a distinction between two sets of cases, the group of "gouty" rheumatoid arthritis and that of "rheumatic" rheumatoid arthritis; but I am willing to admit that this is too superficial and perhaps too exclusively clinical a division, which, moreover, deals only with a limited section. There is a larger section, comprising various types, which are neither gouty nor rheumatic.

The futility of former endeavors to explain all cases by any one theory has led to an attempt to split up the group and to contract the boundaries of rheumatoid arthritis by excluding the chronic senile monarthritic variety; and recently part of the group has been reconstructed on a bacteriologic basis.

You are probably all acquainted with the bacteriologic work of Bannatyne, Wohlmann and Blaxall. Max Schüller,[2] to whom we owe the earliest bacteriologic observations, now goes so far as to separate as a strictly infectious form of rheumatoid arthritis the villous affection of the synovial membrane, *polyarthritis chronica villosa,* which he has been able to produce experimentally in animals, and which he has treated successfully in man, both surgically and by intra-articular medication.

I need not point out that these infectious groups can present but little affinity with gout, and that further evidence must be forthcoming before we can admit that a bacterial origin has been proved in all the varieties. This

[2] Cf. Verhandl. des. XV. Congress fur Innere Medicin.

still leaves upon our hands the monarthritic varieties which are not senile, and two or three different types of the polyarthritic affection, besides the affections following upon traumatic, septic, gonorrheal, tuberculous and syphilitic lesions. And we may therefore still ask: What is rheumatoid arthritis?

The Characteristics of Rheumatoid Arthritis.

The definition of rheumatoid arthritis would have to be reduced to a very simple expression to fit all cases—that of the pale child with symmetrically swollen and shapeless joints, and, perhaps, as in the cases recently described by Dr. G. F. Still, with swollen glands; of the young adult with stiffened articulations and unbending spine; of the woman of mature years with Heberden's nodules and easily excited articular pains; and of the veteran whose longevity declares his original soundness, but who has long been crippled with a wasted and eburnated hip-joint.

In this long gallery of deformities, of which I have only mentioned a few, the chief common features are constitutional and local. Constitutionally, the affection is chronic and progressive when left to itself; it is a disease of depressed nutrition and of debility. Locally, it is also chronic and progressive if allowed to advance. Its lesions are not metastatic but permanently localized. They are essentially degenerative, with marked tendency to overgrowth. In varying degrees, according to cases, each of the constituents of the joint is affected, but more markedly, perhaps, the cartilage. But the cause of the degeneracy is not obvious, though its results are considerable. In this it differs from gout. And from the common forms of rheumatism it differs in all cases by the extent of the destruction and by the permanence of the lesions, in the monarthritic varieties by the strict limitation, and in the polyarthritic varieties by the symmetry, as well as by the number of the joints affected. There is also a greater tendency to an implication of the small joints as well as of the larger ones; whilst in acute cases the acuteness is less than in rheumatism and there is less profuseness and acridity of perspiration. The constitutional influence of the disease is not marked by visceral degeneracies, as that of the kidney in gout, nor so frequently by complications, such as those of the serous membrane and of the heart, as in rheumatism.

Thus, with the exception of the marked peculiarity of the degeneration, those pathologic features which are common to all cases are to a great extent negative and consist of nothing more definite than the permanent localization and the dystrophic character of the lesions. They point, in other words, to perverted local nutrition combined with constitutional debility and mal-nutrition, as the essentially rheumatoid characteristics.

The Theories.

Owing to this comprehensive broadness of type, considerable scope is given to our speculations as to the latent cause, and theories have been freely

supplied. To call the affection gout is pathologically out of date, though not always out of fashion. To regard it as rheumatism is a large postulate in face of many pathologic and clinical discrepancies; and we cannot forget that the etiology of rheumatism itself is a mystery. Some regard arthritis deformans as a form of senile decay, and others as the outcome of some traumatic lesion which has failed to recover, an explanation which is plausible only in the monarthritic cases. But these views hardly explain the early adult and especially the juvenile cases, and those cases in which no lesion can be found. Lastly, we have the more ambitious theories which seek an adequate explanation in some disordered state of the great agents of nutrition, the blood on the one hand and the nerves on the other. These are the neural and the humoral or toxic theories.

It is obvious that these theories cannot all be right; yet they represent the conclusions of thoughtful observers, and it may well be that none of them are absolutely wrong, but that they are partially, if not absolutely, applicable in different cases. The fact of the discrepancies between them is a strong argument as to the want of unity in the group of rheumatoid arthritis and also as to a possible co-operation of many factors in individual cases.

Rheumatoid Arthritis Viewed as a Morbid Result Rather than as a Disease.—The variety, almost amounting to opposition, in the theories as to the nature of rheumatoid arthritis suggests strongly that an attempt may have been made to describe as a disease that which may be essentially a result. If the familiar changes might be regarded as the progressive steps, varying freely in their individual developments, but agreeing in their terminal condition, of the non-suppurative variety of degeneration of joints, it would be conceivable that various diseases—gout, rheumatism, tabes, gonorrheal and other infections, as well as simple injury—might lay the foundation of the mal-nutrition in question.

There might still be room for the recognition of hitherto imperfectly-proven agencies, for instance, for the subtle influences of bacillary infection or of peripheral nerve affections, whether of a structural or of a functional kind, as direct causes for those varieties which are not manifestly connected with any constitutional disease or local factor, and are, therefore, classed as "spontaneous" or "pure" cases of rheumatoid arthritis.

We might, then, more easily reconcile the divergent theories because no longer claiming a pathologic unity for the clinical types. It might be possible to regard the trouble, sometimes, as essentially a tissue degeneration, and to this view correspond the suggestions of traumatism, senility, and disuse, as possible causes, and sometimes as a definite disease.

In dealing with rheumatoid arthritis *as a disease*, we should have to leave aside as incapable of any general application the theories of traumatism, of senile decay, and of pure gout, and to choose between three hypoth-

eses: (1) The neural theory, (2) the infective theory, and (3) the rheumatic theory, with its two chief modifications—the one being (*a*) that rheumatoid arthritis is a hybrid between gout and rheumatism; the other (*b*) that it is a systemic disease, distinct from gout and from rheumatism, yet possessing analogies with both. Or, if it had to be viewed as a substantial disease, entirely distinct from gout and from rheumatism, then only two adequate theories as to its production would remain before us—the neural and the toxic. In favor of both, substantial arguments have been brought forward. On the one hand, a strong point has been made by Dr. Ord of the frequent coincidence of the affection with uterine and ovarian troubles and with catamenial irregularity, amenorrhea and the menopause. This, he believes, indicates a reflex nervous mechanism of production. Arguments are also derived from the considerable wasting of the muscles, from the occurrence of peripheral neuritis, from the alteration in the myotatic reflexes, and from the close analogy of the articular lesions of tabes. On the other hand, a bacillus has been described by which a destructive toxin might be elaborated.

Considerable importance also attaches to the view put forward prominently by Mr. Macnamara,[3] and, according to him, originally suggested by Todd, who ascribed certain joint affections to putrid discharges from the vagina, that the intoxication may be of a non-specific nature, viz., such as may arise from disordered metabolism or impeded excretion, or be due to poisons manufactured within the organism (such as ptomaines produced by suppuration), rather than to germs imported from without. Arthritis may be caused by "the passage into the blood of the chemical products of inflammation rather than to the direct entrance of the microbes into the affected joints." Mr. Macnamara has made the further suggestion that decayed teeth may be in many cases the source of an infection to which the joints may react in a manner analogous to that which we observe in arthritis due to gonorrheal pyemia, scarlet-fever, and various other infections. The suggestions possess much weight and deserve our close attention.

It is noteworthy that one of the affections so well described by Dr. Still[4] as apt to occur in a somewhat acute form in children, is stated by him not to develop usually before the period of the second dentition. This would coincide with the time of decay and absorption of the temporary teeth.

The Clinical Basis of the Theories.—The *neural* theory, and the *humoral* or toxic theory, have both appealed to the same clinical facts.

Thus the high tension and increased pulse rate, insisted upon by Kent Spender, the liability to palpitation noted by Duckworth, might equally be regarded as vasomotor agencies or as due to the action of irritating principles in the blood.

[3] Cf. Proc. Re Med.-Chir. Soc., 3d. Ser., Vol. XI., p. 48. 1899.
[4] Cf. Clifford Albutt's System of Medicine, Vol. III.

Catamenial irregularities, amenorrhea and the menopause, ovarian and uterine affections, mental shock, have all their neural and their humoral aspect.

The pigmentary changes pointed out by Kent Spender and the increased myotatic irritability are not constant phenomena, but they belong decidedly to the province of the nervous system.

General Etiology.—In dealing with the etiology, *predisposition* cannot be entirely disregarded. Rheumatoid arthritis does not present that directness of transmission which is a feature of gout. Indeed, we look in vain for that something which could be transmitted, unless it be a general liability to articular disease. An element of truth is probably contained in the popular view which credits certain individuals with a definite structural weakness of some one or other of their organs, be it weak lungs, or weak kidneys, or a weak heart. Morbid functional peculiarities may run along given lines of structural weakness, and whether we shift this supposed imperfection from the joints to a joint-centre, or localize it in the articulations themselves, there is some reason for admitting that a delicacy of the joints may be inherited. Gout and its associate diabetes, rheumatism, and phthisis, are among the most prevalent of our diseases, and we must be prepared to find them largely represented in the family histories of the rheumatoids; but there is significance in the fact made out by Sir A. Garrod that of these three influences, that of gout in the progenitors is by far the most frequent.

Vulnerability.—Without attempting to discuss the well-known but unexplained susceptibility of joints to the action of various morbific agencies, as, for instance, of gonorrhea and other infective poisons, we are almost led to assume a relatively increased vulnerability of the joints in the subjects of rheumatoid arthritis as an explanation for their unhappy reaction to influences of climate, soil, atmosphere and occupation, which leave stronger subjects unaffected. Other causes sometimes alleged: traumatism, disturbed internal mechanism of the joint or dislocation, paralysis, or prolonged disuse, will not of themselves produce the disease. Undue vulnerability must be called to aid before we can account for the alleged causations.

The vulnerability referred to is closely connected with the question under discussion, inasmuch as it might explain the late development of rheumatoid changes in joints as a result of previous gouty lesions without the intervention of any fresh and additional disease.

THE RELATION BETWEEN GOUT AND RHEUMATOID ARTHRITIS VIEWED FROM A BROAD STANDPOINT.

Enough has been said to justify a suspicion that the rheumatoid conditions do not form a homogeneous unit, but that they may result from various influences and assume different types of development. Since they have

always been described under one heading, the assumption is that they are kept together by a central, well-defined type which has served as the backbone of the entire group, and that it is to that type that the term rheumatoid arthritis properly belongs. This is the type specially considered in my present remarks.

Gout and Rheumatoid Arthritis Contrasted.—Had we been asked to discuss the relationship between rheumatoid arthritis and rheumatism, there would have been no difficulty in tracing many points of contact between them, and no lack of variety in the opinions which would have been elicited, for the question which this relationship involves remains to the present day one of the fundamental and most debatable questions in the pathology of arthritis deformans.

Between it and gout there is much less obvious affinity, and, at first sight, little to debate upon. Yet we are invited to take the matter under consideration. And since we must discuss it, we shall probably discover sufficient material. If I were asked to broadly define the relationship between gout and rheumatoid arthritis, I would state it to be one of contrast, not of resemblance. There is no relation between them. They differ from each other all along the line of clinical symptoms and of pathologic change—with the exception that they are both in their later developments deforming and crippling affections, and that some minor characteristics are common to both.

Constitutionally, they are most unlike. Rheumatoid arthritis, as its name implies, is nothing if it is not a local joint affection. It is apt to shorten life, but this is chiefly due to the deleterious results upon the general health of the antecedent crippling. Gout is not confined to the joints. Its most fatal results are largely independent of the local articular trouble, and are exerted directly upon the kidney, the heart and the blood-vessels, and sometimes also upon the visceral functions, independently of any coarse structural changes.

It would be rash to assert that there is not a constitutional *ens morbi* in rheumatoid arthritis; some peculiarities rather suggest that there is. But we are agreed that the *ens morbi,* if it exists, is much less prominent. And although future investigations may perhaps reveal its power of damaging the vital organs and functions, this power has hitherto been much less obvious, nay, even latent, and the field of its workings totally different from that occupied by gout. For instance, granular kidney and albuminuria, and atheroma of the blood vessels, which are the chief dangers of gout, do not form an essential part of the natural history of rheumatoid arthritis.

Moreover, we notice, at first sight, that the constitutional types attacked by the two diseases are in obvious contrast. The gouty, in general, are apt to be full-blooded; those who develop rheumatoid arthritis, weakly and anemic.

Clinically, the line of distinction is no less sharply drawn. Rheumatoid arthritis selects some of its victims at a relatively early age—with gout, pre-eminently a disease of middle age, this is exceptional. The female sex, which suffers much less often and much less severely from gout, contributes a large majority of the cases of rheumatoid arthritis.

The march of the two diseases is also singularly different. The onset of gout is commonly much more abrupt and acute, and confined to a single joint. That of rheumatoid arthritis, in perhaps its most common form, is relatively gradual and often insidious, and in the typical cases many joints suffer, and symmetrical joints are affected.

Pathologically, what do we find? In gout, sodium biurate is traceable in the joints and in their coverings as well as in the tophi. Nothing of that kind is to be discovered in the straightforward cases of rheumatoid arthritis, and an excess of uric acid in the blood has also been looked for in vain. Locally, the pitting and superficial ulceration of cartilages may be a relatively early event in gout. In rheumatoid arthritis, the early event is swelling and overgrowth of cartilage, destined in typical cases to be a permanent feature, but accompanied later by an extensive destruction of the hypertrophied cartilage and by a varying amount of ossification.

In the later stages some of the local results are analogous. Lipping of the cartilage is seen in some of the chronic cases of gout, and it is the rule in arthritis. Distortions occur in both, which, though essentially different, may sometimes present a rough resemblance. In gout they are due most often to the peri-articular thickenings which are apt to supervene.

Looking at the therapeutic side of the question, we discover no less marked a contrast. To climate, atmosphere, and soil, their reaction is almost identical, but in every other respect there is an opposition in the effects produced by medicines and other measures of treatment, and by diet.

I have endeavored to show that complete divergence exists between typical gout and typical rheumatoid arthritis, yet formerly they were included under one heading, until, at the beginning of the century, Heberden and Haygarth established the distinction. No serious effort has been made to revive the alleged identity between them. At the same time, the confusion which existed between them until 1805, and the fact that we are now discussing a supposed relationship, forcibly suggests that there is, if not in the diseases, at least in the appearances which come before us, some sufficiently marked outward resemblance. I believe that this resemblance is limited to what may be termed "borderland" cases, and that it has been magnified by the diagnostic perplexity to which they give rise; and it is this uncertainty bearing upon treatment and prognosis which adds so much importance to the subject under discussion.

Thus, whilst no confusion is possible between the two pure types, in practice our diagnosis is apt, nevertheless, to be sometimes difficult, and the

inference is that, as they come before us, the two diseases are not so purely typical as in our books. We might well put down this difficulty to our want of perception, were it proved that the two diseases were not only dissimilar, but antagonistic and mutually exclusive. But I venture to think that no universal antagonism exists. Although their general trend is in opposite directions, there is a borderland where they meet and sometimes even blend, and to these associations I shall now briefly refer.

The Types in Which the Two Affections are Associated.

(1) The inherited gouty proclivity which has been traced by Sir A. Garrod in a rather large proportion of the sufferers from rheumatoid arthritis, is doubtless one of the reasons which lends to the affection, in some cases, a gouty complexion—and this we expect to find in the female contingent.

(2) A more direct association is brought about, particularly in this country, as a result of the circumstances of the disease. The inactivity which it entails is but too likely to give scope to the climatic and dietetic agencies which tell upon those most susceptible to gout, and particularly upon males during middle life.

(3) But there is also a third group of those of yet stronger gouty tendency in whom the first event is asthenic gout at a relatively early period in adult life, and in whom a progressive failure of nutrition, or one induced by depressing agencies, may at a later period bring about the rheumatoid change.

(4) Then there is an important group, which has, perhaps, more than any other, influenced the nomenclature and the pathologic theories of rheumatoid arthritis in the direction of rheumatism. Some sufferers present a record both of gout and of rheumatic fever. In harmony with the age periods for the two diseases, we find almost invariably that rheumatic fever is the antecedent event, gout the late sequel. Many of these develop rheumatoid changes, and as applied to them the term rheumatic gout is specially appropriate. But it must be borne in mind that this is not a constant result.

We are thus furnished with four clinical types which agree in some very broad characteristics, and particularly in the symmetrical distribution of the lesions, but which present so much individual variety and gradation that it is impossible to isolate them from each other as strictly separate morbid types.

The most distinctly defined are that last mentioned, and that in which the production of Heberden's nodules in the digits is the chief and sometimes the only visible change, a type most commonly seen in women, the pathology and clinical significance of which are alike obscure.

The cases of early rheumatism with late gout usually present some unmistakably gouty characters by the side of the rheumatoid.

The second and the third groups are less easily defined, and it is in them that diagnosis is most commonly hesitating.

They may come before us under two varieties, or stages, the dry nodose stage, or the stage of effusion, and these call for different lines of treatment.

THE ACUTE ATTACKS OF GOUT AND OF RHEUMATOID ARTHRITIS COMPARED.

In both diseases we have to deal with acute attacks and with chronic developments. The acute attacks are, as might be expected, the most distinctive, and least likely to give rise to any confusion.

The acute attack of articular gout is characteristic, and I need not dwell upon its details, but merely point out that it is made up of an arthritic, of a nervous, and of a vasomotor local disturbance. Its most acute and painful symptoms seem to be due to the extra-articular changes, and particularly to the implication of the nerves and of the circulation.

The acute attacks of rheumatoid arthritis are much less uniform. They are generally regarded as rheumatic, and often mistaken at first for pure rheumatism. But closer observation will enable us, I believe, to distinguish among them two distinct types, as well as transitional or mixed forms. One of them more closely resembles acute rheumatism in the important feature that the affection is mainly *intra-articular*. These are the familiar cases of acute effusion occurring either at the onset, or as exacerbations in the course of the disease. The other form is *sui generis,* unlike rheumatism in many of its features and in the fact that there may be little effusion, but that there is, as in gout, obvious *extra-articular* disturbance and pain.

From the point of view of a possible relationship to gout, these painful attacks of the more severe type deserve our attention. In one respect they differ absolutely from acute gout. Instead of being sharp and short, they are apt to last almost indefinitely. They are generally treated as attacks of acute or subacute rheumatism. But the more sedulously anti-rheumatic methods are applied, so much the worse may the patient's sufferings become, and so much the more lasting the pyrexia. The aching, the pain, and the fixation of the joint are perpetuated instead of relieved by blankets, fomentations and medicines, and the case seems to be interminable. This peculiar behavior is diagnostic of this type, and affords the clew to the only successful treatment. The onset of amendment dates from the moment when the treatment is reversed, the sufferer allowed to lie in a cooler bed, and cold sponging and rubbings, so ill borne in acute rheumatism, applied to the joints and to the general surface.

It is significant that in some of these cases the joints present an erythematous aspect closely analogous to, yet not identical with that of the angry, patchy blush seen in cases of acute rheumatic arthritis. It is never, in my experience, capable of being mistaken for the shiny, puffy swelling of acute gout; but the question needs to be considered whether it is not more closely allied to the gouty than to the rheumatic erythema, though there is not any ground for supposing that a uratic factor has any share in its production.

In connection with the striking contrast between this form and the acute synovitic or rheumatic cases previously mentioned, there arises also the question whether this form is not more apt to attack those who may possess the gouty rather than the rheumatic tendency.

Closely allied to this variety, which is sometimes monarthritic and more often polyarthritic, are the acutely painful but apyrexial premonitions or early beginnings of local rheumatoid arthritis, so often mistaken at first for neuralgia or myalgia, and not infrequently for a gouty myalgia or neuralgia.

In all these varieties there are unmistakable nervine and vasomotor factors which should be kept in mind in any attempt to elucidate the pathology of rheumatoid arthritis.

THE CHRONIC FORMS OF ARTICULAR GOUT AND RHEUMATOID ARTHRITIS.

Great as is the variety of the chronic changes in gout, we find a yet greater variety in the chronic rheumatoid joint affections.

Pure tophaceous gout is from the first and always unmistakable, and any rheumatoid changes that may supervene never disguise the true nature of the affection. On the other hand, rheumatoid arthritis, in its extreme stage, is also sufficiently distinctive. It may be said that the further the rheumatoid degeneration advances, the greater is the convergence between its various types, until destruction of the cartilage and eburnation of the articular surfaces of the bone furnish us with an almost uniform end-product.

But before this final stage is reached, a series of phases are traversed, the exact nature of which may not be obvious. The family history, the clinical antecedents, and the general aspect of the patient may be highly suggestive of gout, but the joints themselves may present the characters of arthritis deformans.

On the other hand, there may have occurred undoubted rheumatoid changes, but with the lapse of time indications may arise justifying a suspicion that the patient has developed gout, and that gouty arthritis may be now associated with the rheumatoid degeneration.

Three types of chronic rheumatoid joints seem to afford room for some hesitation in diagnosis. They all occur at the gouty period of life.

In one of them there is a symmetrical swelling of the joints with effusion. I regard these cases as much more closely allied to rheumatism than to gout, and as belonging to the group which may be termed "rheumatic" arthritis deformans.

In the second variety there is symmetrical enlargement and deformity, but although there may be synovial swelling and peri-articular thickening, there is no effusion. Cases of this kind are sometimes regarded and treated as gout, in spite of there being no tophi, because the patients, chiefly males,

may present some gouty dyspeptic symptoms and an aspect analogous to that of asthenic gout. They are usually rheumatoid cases with more or less constitutional tendency to gout, and it is among them that we may look for instances of the "gouty" variety of rheumatoid arthritis.

Lastly, there is the large group, chiefly of women of mature age, in whom there has been and there is no obvious gouty arthritis, and in whom the rheumatoid changes may be limited to the development of Heberden's nodules and to slight and varying thickening of the wrists or other joints, but in whom, besides a strong gouty family history, there may be marked constitutional symptoms, such as are observed in chronic gout. In some of them the gouty tendency becomes more and more developed. Others, through careful living, remain free from articular gout. But many of them present at the same time a peculiar susceptibility to rheumatic influences from soil and climate. This, then, is a mixed group, and one specially calling for study from the point of view of the relationship between gout and rheumatoid arthritis.

There are other important varieties to which attention might have been called had time permitted: for instance, the painful monarticular rheumatoid affection of the hip with relatively slight deformity, in which a gouty family history or a gouty tendency in the individual may often be traced; and, again, the chronic rheumatoid affection with deformity—less frequently seen now than in the past—apt to follow in the train of gonorrheal arthritis. Hutchinson has insisted that it is peculiar to those who inherit a gouty bias.

DIAGNOSIS.

The importance of a correct diagnosis will be obvious when we come to the question of treatment and of diet.

If we admit that the joints in arthritis deformans are liable to gouty phases, or that the patients are liable to gouty states, we must be prepared to find considerable difficulty in correctly estimating the position at any given period in the history of the cases.

My previous remarks have indicated that the distinction between pure gout and pure arthritis deformans is not difficult, and I need not enter into the familiar details of the diagnosis. It is in the ill-developed forms that the uncertainty arises; and this may be best overcome by carefully watching the case and noticing the result of the various forms of treatment. The question is generally as to whether, where the rheumatoid changes are plainly marked, a gouty element is also present or not. But sometimes we may have to determine whether the deformity of the joints is not essentially gouty, the non-tophaceous variety of gout closely imitating the distribution and aspect of rheumatoid arthritis. For practical purposes, the diagnosis of these cases lies on the surface. The symmetrical implication of many joints declares the rheumatoid characteristic of inherent delicacy and of vulner-

ability of articulations, whilst the history and the general features and aspect of the patient may be so strongly gouty as to make it evident that the exciting cause of the arthritic changes must have been of a truly gouty nature. Cases of this kind present to us that association which exists more frequently than is commonly supposed, in which a gouty lesion may have been the starting-point of a rheumatoid arthritic change, or in which an early rheumatoid arthritis may have been fed up into gout. Had the case been straightforward, with creaking joints and a velvety moist palm, as in rheumatoid arthritis, no doubt would exist. But the palm may be as dry as that of gout, and the creaking may not be obtainable. In such cases, there is doubtless much of gout, in spite of the evidence of arthritis deformans, and it is reasonable to infer that the one condition has supervened upon the other. And, therefore, our diagnosis must take into account, besides the permanent changes of arthritis deformans, the fluctuating phases of gout.

TREATMENT AND DIET.

We need not enter fully into a description of the treatment of gout and of rheumatoid arthritis, but only so far as it bears upon the relationship between the two diseases.

In the first place, it may be stated that the treatment which is most beneficial in pure gout is that which is most detrimental for the worst cases of that form which we may term "pure rheumatoid arthritis," to which colchicum and alkalies would be almost poison, and low living the sure means of aggravation.

The relation between the two forms of treatment is thus one of direct opposition as regards their specializations. Yet there is a considerable basis common to both. Hygiene is essential to all classes of sufferers, but specially to those afflicted with chronic ailments; and *internal hygiene* is more particularly needed by all sufferers from joint trouble, whether this be gout, rheumatism, or rheumatoid arthritis—in addition to the essentials of pure air, light, and of a wholesome dietary.

Our difficulties begin with the management of the mixed forms. Where the indications are not absolutely clear, our action is, of necessity, somewhat tentative. In most of the cases to which reference has been made, there is, besides the rheumatoid basis, a suspicion of the gouty element. I believe that in many of these cases the best treatment is to *treat the rheumatoid arthritis* as thoroughly as this may be wisely done, and to be sparing with the more energetic remedies for gout. Our most important duty seems to be not to add in the slightest to the depressing conditions under which the rheumatoid patient is suffering. A much less evil would be temporarily to increase his gout. But even this need not occur if our treatment be happily conceived.

There is one direction in which the treatment of both affections can be carried out with safety and benefit, almost irrespective of their special char-

acters. I refer to the local measures of relief to the joint. We are now provided with additional and most effectual means of local treatment. It had long been noticed that the old-fashioned balnear treatment, which is often most serviceable in gout, led to very imperfect and often detrimental results in rheumatoid arthritis; I mean the treatment of the patient by prolonged immersion in a hot bath. The same debilitating effect would result in some of the mixed varieties of rheumatoid arthritis, in spite of their gouty complication. The general balnear treatment had, of late years, been abandoned in all such cases for the more local measures of steaming, hot douching, and massage, applied more specially to the joints affected, and our chief success had hitherto been derived from this method. We are now provided with various means of treating the joint by dry heat up to very high temperatures. The careful application of these new methods, graduated to each case, will enable us to feel that a great deal is done for the joint, whilst no possible harm is suffered by the patient, whichever be the stage of his articular complaint.

Dr. Levison, in a most interesting article, has provided us with suggestions as to the diagnosis between rheumatoid arthritis and gout by the X-rays, and as to the treatment of the gouty joints by the electrolytic method. Thus electricity, which had long been known to be of considerable use, whether in the shape of the electric bath or of the constant current directly applied to the limb in cases of rheumatoid arthritis, has now found a yet more direct application in gout, since it addresses itself to the removal of the material which is the source of local irritation and pain.

Meanwhile, internal treatment of such cases may be carried out on lines conformable not only to some of the obvious indications, but also to theories which are in some respects divergent. The abundant use of water as the means of accelerating excretion of waste products and of all forms of toxins, and assiduous attention to the activity of the bowels, are clearly desirable in gout and in rheumatoid arthritis, and fulfill the indications claimed by the neural as well as by the humoral theory as to the latter.

In mixed cases occurring in mature age, it may be best not to complicate the position by any vigorous tonic treatment, nor even by the iodid of iron, which has found so much favor since first advocated by Sir A. Garrod, which is admirably suited to the uncomplicated form witnessed in children and young adults. There may, nevertheless, be room for the administration of arsenic in small doses, and of sulphur, in addition to the purgatives. These have also been largely prescribed by the same authority before the more recent ideas concerning the septic origin of rheumatoid arthritis had been set forth. It may be said for arsenic that, in addition to its antiseptic properties, it must approve itself to those who regard arthritis deformans as conditioned largely by disordered nervous function.

Those are some of the general lines upon which doubtful cases may be treated safely and with the promise of much benefit.

Reference has been made to the acute and painful forms of rheumatoid arthritis, frequently monarticular, in which an inherited gouty proclivity or an acquired tendency to gout may be a factor. As previously suggested, treatment comes to the aid of diagnosis in these puzzling cases. Anti-rheumatic remedies and methods of treatment are harmful, and there is a positive intolerance, though this is not always obvious to those in charge, nor even realized by the patients themselves, for the ordinary heat of the rheumatic bed. Let this influence be removed, and they are immediately benefited. I regard this variety of complaint, long ago described as an affection *sui generis*, and successfully treated by Dr. Fuller, as a special form of rheumatoid arthritis with predominating vasomotor type, and in treating it I am impressed with the necessity of addressing the treatment to the vasomotor system. The best way to do this is the application of heat or of cold. Whilst we had remained restricted to the former thermal methods, treatment by heat had often failed, and the application of cold had been found, in some cases, to be the only successful method, after trying in vain the use of hot sponging, or even of the hot-air bath. Now that different methods are available, it is conceivable that cases of this kind, although refractory to ordinary heat, may be relieved by the heat cure, and derive considerable benefit from the high temperatures generated in a dry atmosphere by electricity, and by other means, as they certainly do from cold applied locally.

The *general* and *medicinal* treatment of this special form must vary with the individual characteristics of the patient, but in the average case most advantage would be gained by our disregarding indications derived from a mistaken diagnosis of rheumatism and by our not being deterred by the gouty family history or personal antecedents from endeavoring to raise the general strength of the patient. This practical view would also meet the indications suggested by any toxic theory which might be entertained by some preference to the neural and vasomotor theory.

The antiseptic treatment by the internal administration of creosotes, phenols and naphthols, recommended by Bannatyne, and the local germicidal intra-articular treatment by means of iodoform, carbolic acid and other germicides, practiced by Max Schüller, are too important to be passed altogether unnoticed, but they are specially intended for the infective form of the disease, and they have not, so far as we know, a direct bearing upon the subject of our discussion.

Lastly, we come to the questions of *diet* and of *alcohol*, the answer to which is foreshadowed in my previous remarks. The rheumatoid patient needs, above all, to be fed, and wine suits him well; but if he should turn gouty, we cannot disregard his gout. It is pre-eminently in this connection that the practical purpose of this discussion is revealed. How to diet the patient and whether or not to allow him alcoholic stimulation, are points not to be safely decided except on the strength of an accurate diagnosis, not

only of the general character of the case, but of its special phase. In doubtful cases there is probably more rheumatoid arthritis about the patient than gout, and I am in favor of the policy which I have indicated in my remarks on treatment, of running the risk of a slight gouty exacerbation rather than of incurring the reproach of intensifying the depression and debility inseparable from the rheumatoid state. The gouty element, if present, may, however, restrict the choice of the stimulants to those more suited to gout, whereas, in uncomplicated rheumatoid arthritis, particularly that of the young, the prevailing anemia calls for a supply of the red wines. In both cases the delicacy of the digestion has always to be borne in mind, and it is equally essential that the diet should be easily digestible and that it should be sufficiently varied and nutritious.

DILATATION OF STOMACH, WITH ESPECIAL REFERENCE TO ETIOLOGY AND TREATMENT.[1]

BY JOHN A. LICHTY, M.PH., M.D.,

THE term, "Dilatation of the Stomach," has, of recent years, been surrounded by considerable obscurity. Nearly every writer upon the subject has found it necessary to give his own definition and classification, which usually differ only slightly from those of other writers. This is unfortunate, for much of the literature has thus been devoted to nomenclature, and comparatively little to other divisions of the subject, especially etiology and treatment.

It is thought best not to speak of the treatment of dilatation of the stomach without referring very particularly to its etiology, because dilatation of the stomach is considered in this paper as a secondary condition, a symptom, and not a disease.

The classification of this condition which seems most satisfactory is that given by Pepper and Stengel in a valuable paper upon "Dilatation of Stomach."[2] In this paper they speak of atonic dilatation, and obstructive dilatation. These terms define themselves. They include all forms of dilatation and atony of the stomach. They are in accord with the opinions expressed by Ewald in his very comprehensive lecture upon "Insufficiency, and Dilatation of Stomach."[3] In this lecture, though he gives no classification, he speaks of the causes as being pyloric obstruction and atony of muscles. They are also in accord with the classification of Riegel and Boas, who speak of:

[1] Read before the Ontario Co. Medical Society, Canandaigua, N. Y., Jan. 10, 1899.

[2] See *Amer. Jour. of Med. Sciences*, 1897, Vol. CXIII., p. 34.

[3] Die Mageninsufficienz und Magenerweiterung, Krankheiten des Magens. Ewald.

1. Simple gastric atony, or motor insufficiency, or myasthenia without dilatation.

2. Atonic dilatation without pyloric stenosis.

3. Secondary dilatation (motor insufficiency due to pyloric stenosis).

Pepper and Stengel include the first division of this classification under the term of atonic dilatation, and rightly so, because simple atony is only the very beginning of atonic dilatation, and should no more be considered an entity than the epistaxis in beginning typhoid should be considered a distinct form of typhoid fever. Such terms as "stagnation" and "retention," which have been introduced more recently to represent stages of the first division, or the simple gastric atony of the Riegel and Boas classification, are considered equally unnecessary, as they simply present successive stages in atonic dilatation.

In this paper, *atonic dilatation,* in its broadest sense, will be considered with special reference to its etiology and treatment.

For the purpose of study, the causes of atonic dilatation may be divided into two groups. The first group includes the *direct,* or *mechanical causes;* the second, the *indirect,* or *nutritional causes.* Clinically, however, this classification is of little consequence, for rarely will it be found that a dilated stomach is due to a single cause, or that the causes may even be found under a single group.

Under the direct, or mechanical causes, may be discussed:

1. *Too bulky meals.* Too much food is taken at a single meal. This is not always because the individual is so very hungry, but because such a large variety of food is furnished for each meal, and the appetite is over-stimulated. At the same time, an excess of fluid is taken, adding greatly to the weight of the food ingested, as well as interfering with the process of digestion.

2. *Rapid eating,* or bolting of food. An individual who eats rapidly takes more food than is necessary, does not masticate it well, and uses an excessive amount of fluid, either water, milk, tea, coffee, or alcoholic drinks, to hasten the disposition of a meal.

3. *Certain diseases of the stomach,* such as chronic gastritis. In this condition, the food remains longer in the stomach than normal, fermentation takes place, gases are evolved, and the stomach is distended.

4. *Abdominal tumors and pregnancy.* These conditions distend the abdominal walls. When the tumor is removed, or after labor, the abdominal walls being relaxed, the stomach is not supported as before, and dilatation takes place.

5. *Chronic constipation.* The colon being heavy with large masses of feces, considerable tension is brought upon the greater curvature of the stomach, which tends to dilatation.

6. *Constriction of waist by too tight, and suspension from waist of too*

heavy, clothing. Many women (and some men) wear tightly-laced corsets, which are supposed to give the body a more natural and graceful shape. Thus the organs are pushed out of shape. The abdominal muscles are put in splints, so that from disuse they soon lose their tone and strength, and fail to afford the normal support to the stomach. The mischief done by the corset, and moderate lacing, however, is not nearly as great as that which results from suspending heavy clothing from a waist which has no support and stiffness. The constriction and weight of heavy skirts, worn over the ordinary corset waist, produce a great amount of tension and dragging down upon the abdominal organs.

It is said by some writers that sometimes the small omentum is unusually short, and the pylorus holds a higher position relative to the fundus than normal. The increased resistance to the passage of food into the duodenum, thus produced, tends to dilate the stomach.

Under indirect, or nutritional, causes, may be considered:

1. *Worry, anxiety, and overwork,* either mental or physical. When food is taken under such circumstances, digestion is often retarded, and sometimes entirely absent. Not only the secretory, but also the motor, function of the stomach is impaired, and the stomach becomes dilated.

2. *Neurasthenia.* There is scarcely any doubt that this neurosis is nearly always accompanied by faulty nutrition. The patient eats, but, under the severe nervous and mental strain, does not digest or assimilate sufficient nourishment to maintain normal strength or body weight. Worry is the initial cause more often than overwork. This impedes digestion and assimilation. The highly-organized nervous system soon feels the lack of nutrition, and then the fatigue neurosis manifests itself, which again reacts upon nutrition, and thus a vicious circle is established. The nervous energies are remorselessly continued, and reserve strength is steadily expended. The patient says she is "living on her nerve." She would be nearer telling the truth if she were to say she is living upon the fat of her abdomen. The fat tissue which is so essential to support the organs and hold them in a position best suited to perform their functions is used up, and the organs begin to sag. The stomach, besides becoming dilated, is often associated with the other organs in a general enteroptosis. In a paper which I read before this society a year ago, upon movable kidney, the subject of faulty nutrition was considered with some detail.[4]

3. Certain diseases of the central nervous system, such as tabes, multiple sclerosis, etc.

Atonic dilatation may follow as a result of febrile diseases, especially typhoid fever.

Anemia and chlorosis are mentioned by some writers as causes of atonic dilatation, while others speak of these blood conditions as the result of dila-

[4] See *Phila. Med. Jour.*, May 14, 1898.

tation of the stomach. There is no doubt that these conditions are frequently associated, but their causal relation is rather uncertain. It would seem to me that their early association is a coincidence, but later in the course of each condition the other may occur in a secondary relation.

The pathology, and especially the symptomatology, of dilatation of the stomach are so thoroughly and minutely considered by Prof. Ewald, in his published lectures on "Diseases of the Stomach,"[5] that it would seem useless for me to attempt any addition.

The diagnosis has, also, been especially considered by Drs. Pepper and Stengel, in a published article, referred to earlier in this paper. These authors have considered minutely the methods of determining the lower curvatures of a dilated stomach, but have said very little of the motility and chemistry of the stomach. While a knowledge of the exact position of the lower curvatures is essential, it is not all which is involved in making a diagnosis. Dilatation of the stomach, when it is considered simply as a symptom, must be associated with the symptom group which reveals the underlying disease, before its diagnosis, or recognition, can be of any clinical value. To make a diagnosis which will be of any value, therapeutically, both the chemistry and motility of the stomach must be considered important factors. Not many years ago, all study was directed to the chemistry of the gastric juice; later, the size and motility of the stomach have been receiving the most attention. Neither of these factors can be safely ignored.

The normal position of the stomach, as described by Luschka, is as follows: "The pylorus lies in the angle between the right border of the xyphoid and right costal cartilages. The lower border lies well above the umbilicus, and the fundus lies beneath the base of the left lung, and is almost covered by its projecting margins."

Deviation from the normal size and position can be readily detected by inflating the stomach through a tube with a rubber bulb. The succussion splash also affords important information in reference to size and position, but more expressly in reference to the tone and power of the muscular walls. The use of the stomach tube is necessary to obtain the information which the chemistry of the gastric juice furnishes.

It is not within the scope of this article to refer intimately to diagnosis. In passing, it may be well to add that it is important to distinguish between gastroptosis and atonic dilatation. A knowledge of the exact position of the pylorus will enable one to differentiate between these two conditions. Gastroptosis is sometimes associated with dilatation.

The treatment of dilatation of the stomach may be divided into: (1) Hygienic, (2) Dietetic, (3) Physical, and (4) Therapeutic.

1. *Hygienic.* The role which tight and heavy clothing, suspended from the waist, plays in this condition has already been referred to. *All*

[5] See Krankheiten des Magens. Ewald.

clothing must be worn loose, and suspended from the shoulders. This cannot be accomplished by putting the abdomen and chest into splints (a corset) and then fastening the heavy skirts to the corset. Neither can it be accomplished by using the ordinary commercial corset waist, and having the tight belts of the skirt buttoned to it. This last contrivance is a snare and a delusion, and intended to relieve a woman's conscience rather than the abdominal organs from pressure. Usually, when asking one of these patients with dilated stomach in reference to the way she wears her clothing, or if she wears a corset, she will either say, "Yes, I wear a corset, but very loose"; or, "No, I wear only a corset waist, and suspend my skirts from the hips."

After considerable study and experiment, I have found a plan which I can, unhesitatingly, recommend to these patients. I ask them to wear union undersuits; instead of a corset, or a corset waist, I have them put on a waist fitted by a dressmaker, specially instructed; this waist being so made that when a skirt is buttoned to it, the weight is really thrown upon the shoulders. To accomplish this, three points must be observed:

First.—The goods, which is usually white drilling, must be so cut that when the skirt is fastened to it, the weight will be in the direction of the weave of the goods and not diagonal to it, as it is in the corset waist of the shops.

Second.—The waist must fit exactly to the shape of the body, with sufficient room for respiratory expansion.

Third.—The buttons for the attachment of the skirts must be so high that when the necessary weight is thrown upon them, they do not pull below the line of the smallest circumference of the patient's waist.

To such a waist, both the petticoat and the dress skirt are buttoned. The belts must be comfortably loose. Over this waist, the ordinary dress waist, or a basque, is worn, loose, but neat, and not hooked to the skirt below. During cold weather, instead of adding an underskirt, knitted woollen tights of desirable weight should be worn. Such a combination will afford comfort, and, at the same time, permit the most fastidious to comply with the varying fashions.

These patients frequently go to sanitariums, where the life is such that tight dresses cannot be comfortably worn. They wear wrappers, and spend much of their time lying down. Improvement, if not entire recovery, takes place, and they return home, where they again put on their unhygienic clothing, and in a short time relapse to their former miserable condition.

2. *Dietetic.* In dilatation of the stomach, one must contend with the unfortunate circumstance that the very organ which is needed most to hasten a recovery is seriously disabled.

It is essential, if the patient is below her normal weight (and this is nearly always the case) that she should regain, or go above, her normal

weight. The abdominal organs must be in part supported by the normal amount of fat which is found in the abdomen in health. I know of no one food which will restore this more readily than milk in definite quantities at regular intervals.

I am aware that a liquid diet in dilated stomach is contrary to the teachings and writings of many for whose opinions I have the greatest respect. They tell us "a modified dry diet, concentrated, with meals at long intervals, coarse vegetables, and, if necessary, nutrient enemata, so that the stomach may have very little weighty material, and have long periods of rest." I have never yet succeeded in getting these patients to gain in weight upon such a regime. If one adopts the dry diet, and also has the patient take as much water as one in health ought to take in a day, I dare say the weight of the food and water will be equal to the weight of the milk necessary for one day. But these patients need to take *more* fluid than a healthy individual, because they nearly all suffer from partial anuria, are constipated, and in a condition of auto-intoxication.

I have had very satisfactory results in many cases by giving these patients two glasses of good, rich milk, with two raw eggs at meals, say at 8 A.M., 1 P.M., and 6 P.M.; and two glasses of milk at 11 A.M., 4 P.M., and 9 P.M.; sometimes giving an additional glass at midnight, or early in the morning. After these meals and lunches, the patient is required to lie flat on the back, or on the right side, for a period of thirty to forty minutes. I do not see that there can be any danger of aggravating an existing dilatation when the patient follows this course, for the weight of the food is not exerted against the lower curvature of the stomach, but against the posterior wall, which is well supported by the underlying tissues.

With such a diet, the kidneys become very active, the bowels often become regular, and the patient gains in weight. When the patient regains the normal weight, a meal of solid food is allowed at 1 P.M., consisting of a mutton-chop, and zwiebach, with about four ounces of water, and for the four o'clock lunch are substituted about twelve ounces of water. The other meals and lunches remain the same. If, after a week of experience with the mid-day meal, the patient holds her weight, a meal of solid food is ordered for breakfast, much as the mid-day meal, with the addition of a well-cooked cereal, and to the dinner are added green vegetables and soft-boiled eggs. The patient is advised to eat butter freely. Thus, gradually, the patient is given three meals of solid food a day.

What of the patients who cannot take milk or raw eggs? There are many who think they belong to this class, but it is surprising to see how few really suffer from such an anomaly. The usual opinion is that there is too much acid in the stomach and the milk is curdled. From a careful study of the chemistry of the gastric contents, and observations upon the effect of milk in a number of cases, I have found that patients with hyperacidity are more likely to take milk without discomfort than those who

have an absence of acid. A most decided case of hyperchlorhydria took milk easily, while one of achylia gastrica could not take it at all.

It is not well to continue one diet with these patients too long. After ten days or two weeks of milk and raw eggs, it is well to have the patient take plain water for ten or twelve hours, equal in amount to the milk which would have been taken during the same time. After this, the milk is again resumed.

All foods which are likely to cause fermentation must be avoided. Among these are potatoes, rice, and white bread. Raw fruit and an excess of sweets and fats must also be avoided.

3. *Physical.* Under this are included massage of the abdomen; certain exercises intended to develop the abdominal muscles; faradic electricity applied to the abdomen, and alternate hot and cold packs, or alternate hot and cold douches applied to the abdomen.

The application of electricity in these cases has been a question upon which there has been a diversity of opinions. Physiologists have proved that it is impossible to cause a contraction of the muscles of the stomach by the external application of the electrodes of a faradic battery, but that if one electrode is applied intra-gastrically, and the other over the abdomen, the muscles can be contracted at will. This has led to the use of the intra-gastric electrode. If the chief end of the application of electricity to the abdomen in these cases is to cause a momentary contraction of the muscles of the stomach, the intra-gastric electrode ought to be of the greatest value. But more than this can be accomplished with faradic electricity in these conditions. The tone and strength of the relaxed muscles of the abdominal walls can be increased, and I believe that the digestion and assimilation of food can be increased. Gynecologists, especially those who employ electricity, claim that they can alter tissues in the pelvic organs by applying electricity, pericutaneously. If this is true, would it not seem reasonable that electricity, applied in the same way, would, at least, alter the delayed functional activity of the stomach and bowels? I have used faradic electricity percutaneously, and have obtained very satisfactory results.

4. *Therapeutic.* There are several drugs which can be used to great advantage in the treatment of atonic dilatation. Among these, the tincture of nux vomica can safely be said to take first place. Strychnin may be equally effective. A combination of the sulphate of quinin and strychnin is often very good. If there is diminished HCl in the gastric juice, small and frequently-repeated doses of HCl are beneficial after the meals of solid food. If there is an excess of HCl, a combination of sodium bicarbonate, calcined magnesia, and bismuth subnitrate can be administered to advantage.

If the constipation is not relieved by the hygienic and dietetic measures, and by the massage, the electricity, and the physical exercises to which reference has been made, glycerin suppositories may be used. Fluid extract

of cascara sagrada, with tincture of belladonna and glycerin, may be given in small doses, if the suppositories are not effective.

The prognosis in these cases is good if the physician can have full control of the patient. Often the symptoms will disappear long before the stomach resumes its normal size. To illustrate the good results which may be obtained with these patients, I report, briefly, two cases.

Case 1. Mrs. A. V. H., aged fifty-four years, married. Complains of stomach trouble of three years' standing. Manifests itself by distention of the abdomen after meals and eructations of a sweetish, sometimes irritating, gas about three hours after meals. Is hungry, but eats very little on account of distress following meals. Bowels are obstinately constipated, move only with cathartics, or large enemata (two to three quarts). Sometimes bowels do not move for three days or a week. Has prolapsus of the rectum, for which a support is worn. About every tenth day has a headache, which begins back of the eyes, and is accompanied by nausea; sleeps poorly; takes ten grains of sulphonal every night; has night-sweats at times; feels very weak and miserable.

Has usually been well; two years ago had nervous prostration, from which she thinks she partially recovered. Has passed the menopause.

No history of any hereditary disease.

Physical examination.—Is pale and somewhat emaciated. Weight is ninety-five pounds; maximum weight, 120 pounds, three years ago.

Eyes.—Has a cataract of both eyes.

Tongue.—Clean and smooth.

Chest.—Heart is normal; pulse, 92; lungs, normal.

Abdomen.—Very flabby. Stomach dilated to two inches below the umbilicus, and full of gas. Right kidney movable. The uterus is retroverted.

Urine.—Scant; specific gravity, 1,027; reaction acid +. Some uric acid crystals; strong reaction of indican.

Blood.—Hemoglobin, 85%; red blood corpuscles, 4,888,000.

Stomach contents.—One hour after an Ewald test breakfast, free HCl, 12; total acidity, 60; lactic acid, absent; erythrodextrin reaction rather weak; starch cells pretty well digested; curdling principle active; white of egg digested in twenty-five minutes.

The diet which has been suggested in this article was prescribed, and proper hygienic measures were adopted. Faradic electricity, general, with especial reference to the muscles of the abdomen, was prescribed, besides massage, Swedish movements, special physical exercises to develop muscles of abdomen and chest, and salt rubs. Strychnia sulphate, gr. $^1/_{50}$, was given three times a day. For the constipation, fluid extract of cascara and glycerin were prescribed.

At the end of three weeks, the bowels moved without assistance, and sleep was natural, the sulphonal having been gradually diminished. At the

end of eight weeks, the patient weighed 125 pounds, a gain of twenty-five pounds. Solid food was given for the mid-day meal, followed by diluted hydrochloric acid. At the end of thirteen weeks, the patient weighed 125 pounds; had no distress after the three solid meals a day; bowels were regular; the support for the rectum was no longer needed; the right kidney could not be palpated; the stomach was distended only slightly; sleep was normal, and the patient felt perfectly well.

CASE 2.—Mr. C. C. W., aged forty-four years, single. Five months previous to his first visit to my office, he began to have "gas in the stomach," which appeared from one to three hours after meals, and was tasteless. Has distention of abdomen at times. Bowels are constipated. He also has palpitation of the heart, is nervous, and, at times, much depressed; feels weak and languid, and spends most of the time in his room.

Twenty-five years ago, while at college, he had a similar attack, only not so severe. Seven years ago, after an attack of la grippe, he had a nervous breakdown. He comes from a neurotic family.

Physical examination.—Is pale; weight, 127 pounds; maximum weight, 165 pounds, twenty years ago. Two years ago weighed 150 pounds. Is nervous and depressed.

Tongue.—Coated and flabby.

Chest.—Pulse, 88, occasionally intermitting. No valvular heart disease. Lungs normal.

Abdomen.—Stomach dilated below umbilicus about one inch. Abdominal muscles flabby.

Urine.—Specific gravity, 1,020; reaction, acid; indican not marked.

Blood.—Hemoglobin, 85%; red blood corpuscles, 5,200,000.

Stomach contents.—Free HCl entirely absent; total acidity, 14; erythrodextrin reaction absent; starch granules well digested; curdling principle very slow; digested white of egg in eighty minutes.

This patient was placed upon a milk diet. About every tenth day, hot water was substituted for the milk for twelve hours, and then the milk was resumed. Faradic electricity, massage, salt rubs, and hot fomentations to the abdomen, were prescribed. Tincture of nux vomica, in ten-minim doses, was given three times a day. At the end of four weeks, a meal of solid food, consisting of roast beef, or mutton, green vegetables, cereals, and zwiebach, was given at mid-day, daily. At the end of seven weeks, solid food was given at all of the meals, and between meals the patient drank daily about nine glasses of water.

The patient was last seen four months after beginning treatment. The stomach was then normal in size; the patient weighed 157 pounds, and felt well, not having any distress after meals.

I have found that dilated stomach in men is more amenable to treatment than in women. This fact has been noted so often that I have relied upon it when making a prognosis.

TALKS TO GENERAL PRACTITIONERS.

FUNCTIONAL DISTURBANCES OF THE OCULAR MUSCLES.

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PART I.—General Remarks.

When the visual axes of the two eyes meet exactly at the point of observation, the ocular muscles are said to be balanced. This muscular balance is maintained by the perfect anatomic conformation of the muscles and equally distributed innervation to them. Any disturbance of these factors upsets the muscular equilibrium. If the insertion or structure of a muscle is faulty, or if the innervation is anomalous, muscular imbalance is produced. This, however, does not imply that binocular fixation becomes impossible. On the contrary, the visual axes may be rightly directed by increased innervation, and single vision is maintained in ordinary work. In true squint or permanent deviation, this is not possible, and diplopia (double-vision) is only avoided by the use of correcting prisms or by forcing one eye from participation in the visual act. In other words, in true strabismus, perfect binocular vision is impossible without optical assistance, while in ordinary muscular imbalance, or heterophoria, binocular vision is maintained by increased innervation. In the first, the anomaly is in some part organic; in the last, exclusively functional.

The importance of the study of the functional anomalies of the ocular muscles is manifest when we realize that the extra expenditure of nervous energy in maintaining perfect binocular vision causes asthenopic and reflex symptoms quite as annoying as those due to errors of refraction.

The cause of heterophoria is almost always a refractive error. For many years it was supposed by some authorities that the defect was anatomic, that the muscles concerned were too short, too long, or anomalously inserted or attached, and that the remedy was surgical intervention by means of tenotomy and advancement. In fact, minutely-graduated tenotomies were seriously practiced, and all sorts of wonderful results were reported from a series of almost infinitesimal tendon-cuts. Many of the results were imaginative or the temporary sequence of the mental impression of operation. It is likely that in a great part they were due to the associate treatment, such as the careful correction of refraction. It is a safe axiom to follow that in persons in whom heterophoria will produce distressing symptoms, uncorrected ametropia will cause the same ills in an aggravated form. Tenotomy and advancement have never given satisfactory results without the correction of refractive errors.

The involuntary or automatic movements of the eyes, such as the rotations in reading, are intimately associated with the act of accommodation.

For instance, when a book or paper is brought close to the eye, we know that there is an innervation to the ciliary muscle, forcing it into action, thus changing the focus of the crystalline lens, so that it will receive rays of light from the near object and place them exactly upon the macula of the retina. At the same time, the two eyes must converge in order that their visual axes meet exactly at the near object; otherwise, there would result confusion of images or diplopia. In the same way the eyes must be rotated in or out, up or down, with a definite exactness, according as the object is held to the right, left, above or below the vertical and horizontal visual planes, otherwise the visual axes would not meet exactly at the point of observation. Whether congenital, or by long habit—the development of automatism—these movements of the eyeball are intimately associated, likely controlled by one centre, or contiguous centres, as far as participation in near work is concerned, and there is a constant relation maintained between the acts of accommodation and ocular movement. This is particularly so with convergence, and long ago the theory of squint by excessive stimulation of the adduction (convergence), associated with excessive accommodation in hyperopic eyes, was propounded, and has never been successfully controverted. The same is true of esophoria. In the same way we may explain exophoria as the result of weakened adduction by prolonged and excessive stimulation. Again, in uncorrected myopic eyes, the eye-ball is long and requires more force to rotate it, and the myope works at a very close near-point, and so puts extra strain on the powers of convergence. In addition to the foregoing, many other reasons have been advanced for the participation of ametropia in the causation of functional anomalies of the ocular muscles. No matter which explanation seems the more rational, this fact is always before us—attention to the ametropia speedily relieves the muscle defect. It is careful refraction, and not ridiculously refined surgery, that cures this class of cases. Tenotomy enthusiasts have gone so far as to advocate, before rational societies, the isolated study and surgery of individual muscles which never have isolated action. It is not the study of the external rectus, the superior oblique, the internal rectus, or the inferior oblique, that helps us in diagnosis and treatment, but it is careful observance of the powers of adduction, abduction, sursumduction and general rotation that proves of value. No careful observer nowadays believes that convergence or adduction is performed by the internal recti alone, or abduction alone by the external recti. They know that several muscles participate in these movements, and that they are controlled by a common centre of innervation for the specific rotation in question. Therefore, the important points in the study of the ocular muscle are the measurements of adduction, abduction, sursumduction, and horizontal and vertical deviations. The proposed study of oblique muscles is useless and thoroughly unreliable. We will next proceed to the methods of making the tests for determining the various muscular defects.

(To be continued.)

TREATMENT OF GONORRHEA IN THE MALE.

BY J. D. THOMAS, M.D.,

Professor of Genito-Urinary Diseases, Western Pennsylvania College, Pittsburg, etc., etc.

"THERE is no royal road to geometry"; neither is there a royal road to the cure of gonorrhea, as those who have extensive experience with the disease will testify. That the vast majority of cases of gonorrhea are recovered from within six or eight weeks is true, but it is also true that a certain proportion is very rebellious to treatment. Some of these latter recover after prolonged treatment, whilst a few appear to be incurable. I believe that most urethrae that have once undergone a marked attack of the disease suffer some permanent impairment, evidenced by hyperesthesia, a urethritis of simple character from trivial causes, prostatic neurasthenia, to say nothing of the more gross lesions, such as stricture, etc.; therefore, an early cure is a very important matter, as it prevents the many sequelae which may follow.

With regard to treatment, I recognize three types, or classes, of the disease, viz.: 1. A virgin gonorrhea, in which the inflammation is of a severe character. 2. A virgin gonorrhea, in which the inflammation is of a moderate or mild character; and 3, a multigonorrhea, for in this last class the inflammation, as a rule, is subacute or moderate. Classes 2 and 3 may be treated along the same lines, unless there are special pathologic lesions left from the previous attacks in class 3.

In the first class, irrigations or injections are impracticable. The urethra is so swollen that the urine is voided in a small stream and with a great deal of pain. It is still more painful to attempt to inject a solution of any kind into such an urethra, for, in the first place, it will not enter, and, in the next place, the attempt is a source of irritation. In this class catharsis is indicated, together with full doses of sodium bicarbonate (or any of the alkalies) with hot water, persistently applied, locally. Quietude, with proper hygiene, general and sexual, is also important. To keep the bowels open, a dram of sulphate of magnesia may be given morning and evening. With the evening dose, thirty grains, or more, of bromid of potassium may be combined. This will tend to keep down erections, which are accompanied with chordee, and at the same time aid in securing rest. After the acute symptoms subside, the same line of treatment may be followed as in classes 2 and 3, which I now outline.

Irrigation by the Janet method, is, without doubt, a great aid in the treatment of gonorrhea. It is carried out thus: Fill a fountain syringe, placed six to eight feet high, with the solution hereafter described. The end of the rubber tube is fitted with a glass nozzle. The nozzle fits in the

meatus, and the irrigation is accomplished without passing any instrument into the urethra. It is not a specific or "sure cure," as some would have us believe, but it is a good method of cleansing the urethra with copious quantities of antiseptic fluids. It is less painful than attempting to accomplish the same results with a catheter or retrojection tube passed to the bulbous portion of the urethra. After the first irrigation, when the patient may be somewhat nervous, the method is painless, agreeable and satisfactory. The best general solution to use is that of permanganate of potassium of the strength of 1--4,000 to 1--3,000. I do not vary the strength of the solution much, for if it is too strong, some smarting will be produced, and it cannot be used in sufficient strength to act as a germicide. Strong solutions are less efficient than those that produce no pain. Having used other solutions, as bichlorid of mercury, formaldehyd, etc., and having found them less efficient than the permanganate, I now use the latter almost exclusively.

To make the irrigation method successful, it must be given morning and evening for six days, then once a day until the case is cured. If at the end of two weeks it is found that no better results are being obtained than by methods that take up less of the physician's time, it is then better to resort to some of the other methods.

If the patient cannot receive office treatment daily, the Janet method cannot be utilized, except as auxiliary treatment, and it becomes necessary to resort to the injection method. The medicines used for this purpose are numerous. Personally, I prefer the following injection, viz.:

℞ Zinci sulphocarb., ... gr. xv.
Acidi boric, ... gr. xxx.
Aq. destillat., ... ℥vi.

Sig.—To be used as an injection every 2 or 3 hours, after urination.

To prescribe an injection to be used three times a day is temporizing and inefficient. The patient should also be instructed to use the injection at least twice during sleeping hours. By this method the pus, with the gonococci, is washed away, and nature is given a better chance in the conflict. If the patient is not making satisfactory progress, the physician himself may occasionally give an injection of nitrate of silver, grain ¼ to the ounce. In addition to the local treatment, salol with oil of sandal-wood, or copaiba, may be given three times a day.

When the deep urethra is involved, if we are using the irrigation method, the solution should be carried, after first cleansing the anterior urethra, through the urethra into the bladder; the patient is then permitted to void it. This process is repeated two or three times during each seance, as the bladder will not bear a large amount of the solution at each attempt. When the irrigation method is not practicable, instillations may be substituted, nitrate of silver grain 1 or more to the ounce being used, but not oftener than every three or four days. Salol and the alkalies are here quite beneficial.

Hot water, injected into the rectum, may also be useful. If, at the end of six or eight weeks, there remains some discharge, the passage of a *fairly* full-sized sound may be practiced. If, after the passage of the sound, the case improves, the treatment may be repeated every fourth day, but, if not, it must be discontinued immediately.

HOW TO GIVE MEDICINE TO YOUNG CHILDREN.

BY JOHN MADISON TAYLOR, A.B., M.D.,

Professor of Diseases of Children, Philadelphia Polyclinic, etc.

I THINK you will agree with me when I claim that to select wisely the drugs most suitable to relieve the maladies of infants and young children is a more important matter by far than for older folk. To adjust dosage to the delicately varying infantile scale of age and capacity for resistance is, perhaps, the largest accomplishment of the therapeutist; and to learn how to render the various offensive substances of the pharmacopeia acceptable to the young subject is worthy the study of a lifetime. In this last an intelligent pharmacist can be of great assistance, and that physician who has had the opportunity of spending some months in the actual work of drug dispensing is always miles ahead of him who has not. In the first place, it is well to bear in mind that few drugs are needed, or, indeed, tolerated, by infants; thoughtful hygienic regulations usually sufficing. For older children, it is admissible to use a larger variety, always holding before the consciousness the fact that one is dealing with a tender and ill-balanced organism whose cells are in a condition of budding growth and rapid proliferation. On the other hand, it is needful to realize the urgent truth of Jacobi's constant insistence that by means of well-directed medication it is possible alone oftentimes to save a wavering life or avert serious catastrophe. The therapeutic nihilist is not only a very bigoted, but an ignorant, person, and one on whose consciousness indisputable facts make small impression.

When the circulation or respiration is failing by the overwhelming toxemias of acute diseases, and equally so in the slower processes, as the vital resistances fade away, it is obvious, to a man of experience, that powerful medication is required, and that, too, most promptly and repeatedly until the desired effect is secured. Here the hypodermic needle finds its rare place in pediatrics. Again we may turn, for the salutary humbling of our minds, to the spectacle of excellent recoveries pointed out with pride by those who use mysterious potentialities buried in sugar of milk, and still further to wise old women with their "simples," effectively fortified as they are by many points of solicitous and rational hygiene too often overlooked by both educated physician and trained nurse.

Our privilege and duty as skilled physicians it is to hold the balance of power, and by means of a depth and breadth of knowledge, fortified by accurate judgment, to bridge over the lapses which inevitably come in the work of well-intentioned and oftentimes intelligent ignorance. In my opinion, our chiefest shortcoming nowadays is in the line of practical therapeutic knowledge. So brilliant are the results to be obtained, and the fame to be gained, by investigations in the laboratory, and so general are the sneers at empiricism, that there is small inducement for the younger student to spend his valuable time in acquiring a familiarity with the actual workings of those tools with which his future practical results are to be gained. Hence he trusts to his inchoate knowledge of "physiologic action" and fleshes his maiden blade deeply and readily upon his early-acquired and confiding clientele, the largest part of which is liable to be young children.

My experience at the Polyclinic, in teaching graduates of some years' standing, leads me to urge upon medical men the habitual use of the simplest agents, and many excellent remedies much out of fashion, and to warn against the use of the endlessly-vaunted new articles foisted upon a purchasing public by the accomplished manufacturer. Moreover, I often learn from these students valuable therapeutic points, self-acquired by dint of much labor, and I urge the importance of placing on record the data so gained.

No man is fit to be entrusted with the lives of sick children who has not given thoughtful attention to clinical work in this particular line. It is doubtful if his own private practice can suffice for this, though, of course, it is conceivable. It is imperative to acquire ripe judgment, to watch the actual results of certain lines of medication, and this can only be well done in hospital wards and out-patient services. The first thing to be learned is dosage, and here I find the graduate student particularly lacking; next comes the difference in susceptibility to drugs seen in children, as contrasted with adults.

The one vital point to be ever sedulously borne in mind is that during the developmental epochs of childhood, the cellular activities are most unstable, and hence the organic processes are easily disturbed. Not only are they most susceptible to toxic influences developed from within, but equally to those from without, of which the commonest are the drugs we use with a view of relieving these states. Hence it is plain that not only must great caution be exercised in applying our remedies, but an adequate knowledge of physiology should be at the bottom of our reasoning, supplemented by a wise empiricism which can only be acquired by experience of a watchful, reflective kind. Therefore, it is obvious that the custom of many of our confreres of collecting special prescriptions for use in practice is apt to be misleading, the better way always being, when in doubt as to our therapeutic resources in a given case, to drink anew at the fountain-head of some standard book on the action of remedies. The practical procedure which I

would recommend in a case of gravity is to observe the patient as often as may be, to watch the pulse, respiration, heart sounds and secretions, and also to demand of the nurse such reports as she can offer on temperature, appearance, restfulness, food, etc., and then change drugs in the exact light of organic variations.

And here a word may be said, in passing, in commendation of the plan now in much favor, of the practitioner having on hand certain drugs which can be left in solution with the nurse, to be used for only so long as there is indication for their use, or to supplement those ordered from the shop. Better results can be had by thus instantly meeting the changes on the circulation, respiration, digestion, etc., by the supply and withdrawal of these than the slower plan of sending for a prescription which may be delayed in the coming, and with pardonable economy, may be carefully used up. I constantly teach to my classes that the most needful equipment of the physician in prescribing for children is a pen and paper, to enable him, at the time, to write out detailed instructions to serve until his coming again; especially the exact hours for the administration of all remedies and foods, likewise the precise amounts of everything, including also baths, sleep and exercise. It is important to specify the temperature of baths, certainly when these are applied for the modification of temperature or other special therapeutic effect. It is impossible to assume that any mother is either a born, or a trained, nurse, and the most willing one is frequently never able to attain high accomplishments in this direction. Some, however, can be taught, and become fair nurses, if your instructions are sufficiently minute and clear; and, above all, legibly recorded, so that precise directions may be followed, as well as a conception of the spirit of their duties be acquired. The efficacy of system is here as forcefully displayed as in the commercial world, where it is almost the chief condition of success. Again, bear in mind that children differ from adults in their susceptibility to certain drugs: to some they succumb alarmingly, to others they seem most tolerant: all of which facts should be studied in the books, but a cautious experience is the best teacher. As illustrating this point, opium is notably dangerous and belladonna easily borne. Drugs which are promptly eliminated need frequent repetition, such as aconite, nitro-glycerin, alcohol, the ammonia salts, etc. Those which accumulate may be given only at long intervals, once or twice in a day, though sometimes, of course, these are needed oftener; such as strychnin, digitalis, strophanthus, the iodides, arsenic, iron, etc. Another thought: children, especially very young ones, are not revolted by simple bitters, their taste being not of keen differentiation. Women detest bitters, hence, if the mother should taste the medicine, she is apt to cry out in disgust and unintentionally set the mind of the patient against the remedy. Nor do children enjoy drugs made heavy and cloying with syrups. It is better to fix the dose as small as possible, and give a drink of pure water afterward. In the department of pharmacology, it is imperative to be most

exacting, and a physician will do well to learn by experience the capacity of certain druggists to fulfil his directions to a nicety, and oftentimes he can learn from this colleague much of importance for himself. Put the druggist upon his honor to give best service, and then let him have both credit and profit. For instance, in the administration of oils, a properly-made fresh emulsion is the best method of offering them; and, unless it be well made, it is an object of offense. In giving an oil in any form, direct the patient to swallow a mouthful of water first.

It is an extremely important subject to study the capabilities of hypodermatic medication; although the possibilities in this direction are not large in children, yet there is much to be learned in the near future in this direction. Organic extracts, various forms of serum, both simple and specialized, is a constantly widening field; not only so, but the subcutaneous administration of saline solutions is coming into much wider and more promising usefulness. A convenient and acceptable form for giving many tinctures, as well as salts, active principles and alkaloids, is in powders of sugar of milk. Many children can be taught to swallow small pills, especially the flattened discs, chocolate coated.

THE TREATMENT OF ACUTE GASTRITIS.

BY BOARDMAN REED, M.D.,
Philadelphia, Pa.

It seemed at first thought scarcely necessary to devote a talk to this subject. The diagnosis of acute gastritis is made almost daily, especially in the summer, by every busy practitioner, and, as to treatment, little or no medication is usually required. If patients would only stop eating, and drink nothing but spoonful sips of plain water, the disease would nearly always cure itself in a few days. But I have received a number of requests to discuss the subject, and perhaps there is room for a lesson, particularly on what not to do in simple acute gastritis.

Three harmful things are often done: 1. The patients themselves usually insist upon drinking large draughts of water which has been rendered irritating to the inflamed mucous membrane by the addition of ice or lemon juice, or some other sharp acid.

2. The friends are apt to insist upon the patient's taking food in spite of his positive repugnance to it, and notwithstanding the fact that it is rarely ever retained.

3. The attending physician, if taught as many of us were, that the chief remedy for vomiting is bismuth, too often stuffs frequent full doses of that or some other equally useless and disturbing drug into the protesting stomach.

Before deciding upon the treatment, you will, of course, be sure of the diagnosis. If without fever your patient suffers from severe and persistent

vomiting, not as a result of some poison from without, and the ejecta are first sour-smelling masses of undigested food, later mucus and bile, while there are present also nausea, thirst and a marked sense of discomfort or even acute pain in the gastric region, along with epigastric tenderness, headache, anorexia and great prostration, you will nearly always be dealing with simple acute gastritis, due most frequently to overloading the stomach with food, some or all of which was in a very fermentable, if not already fermenting, condition when ingested. Practitioners at the seashore, where it is the fashion to eat oysters all summer, often see very violent and distressing attacks which have resulted from eating the always highly-putrescible bivalves when these were not quite as fresh as they should have been. And, alas, it happens only too often to every physician in general practice to contend with acute catarrh of the whole gastro-intestinal tract in infants because the milk in their artificial food was already souring when given to them.

Acute gastritis may occasionally be simulated by vomiting of nervous origin, and cases of the latter may even be associated with paroxysms of severe gastric pain — gastralgia. An interesting case of this kind was recently seen by me in Atlantic City in consultation with Dr. Philip Marvel. The diagnosis between these two conditions turns mainly on the presence or absence of tenderness on deep palpation. With acute gastritis there is always more or less marked tenderness on deep pressure or kneading over the stomach. Then, in the neurotic cases the vomiting is more apt to be intermittent, as well as less responsive to simple treatment. It is noteworthy, however, that in most of these so-called nervous affections of the stomach, a thorough examination reveals some pathologic condition in either the stomach or intestines — chronic catarrh somewhere in the alimentary tract, displacement or dilatation of the stomach, or, very frequently, a movable kidney. Occasionally the cause is a latent gastric ulcer or undemonstrable carcinoma.

Acute febrile catarrhs of the stomach are rarely seen in adults, though common enough in young children, and then probably usually involve also the duodenum at least, if not the whole small intestine. These cannot always be distinguished from beginning meningitis, typhoid fever, malaria or other fevers at first, though by a careful process of exclusion the diagnosis can usually be made within a short time.

The chief indications to be met by treatment are (1) rest of the inflamed organ and (2) elimination, that is, removal of any remaining particles of fermenting or putrefying food, as well as of the previously-formed toxins.

As digestion has been completely arrested, you will, of course, withhold all food for twelve to twenty-four hours at least, or even till the acute stage is over, especially in adults; and as you are dealing with a highly-inflamed membrane, you will avoid making matters worse by administering any remedies that, by reason of their taste, smell, or other mechanical properties,

could either further irritate that membrane or excite reflexly the vomiting center. And unless the pain is so violent as to make the duty of instantly relieving it outweigh all other considerations, you will not lock in the toxic products by giving opiates.

Besides observing the foregoing cautions as to what not to do or permit to be done, you may usually shorten somewhat the period of cure and often at the same time lessen the discomfort of the patient, by a few simple remedial measures. Considerable alleviation often results from a wet pack or compress applied directly over the stomach, the moisture to be well confined by an oiled silk or some other impervious cover, and the whole held firmly against the body by a flannel binder. This is usually applied cold, but when there is a violent, colicky pain, it is better to have it as hot as possible, and even to increase its counter-irritant properties by sprinkling turpentine on it.

For the purpose of more thoroughly emptying the stomach than nature can accomplish unaided, emetics have been suggested, but are decidedly contraindicated, and the tube which has been recommended by some authorities, is better avoided in these acute cases, except as a last resort, though often indispensable in chronic gastric catarrh. The best method is to have the patient drink very freely of warm or tepid water — not less than a pint at a time—which, being promptly vomited, will usually empty thoroughly every corner or pocket of the stomach. Let this be done several times, at intervals of ten or fifteen minutes, after which marked relief of all symptoms nearly always follows. Having thus thoroughly evacuated and cleansed the stomach, you should limit fluids by the mouth to not more than half-ounce drinks (or, in babies, at first teaspoonful doses) of plain, moderately-cooled water — not ice-cold, as a rule. Sometimes, however, *in these small quantities,* even iced water agrees well. Small pieces of ice, swallowed at intervals, suit better than water, and in severe adynamic cases they can often be administered with advantage in teaspoonful or tablespoonful doses of a dry champagne at half-hour intervals.

When medicines are necessary, the most useful one at this stage I have always found to be calomel in doses of $\frac{1}{6}$ grain for adults or $\frac{1}{12}$ grain for infants, *taken dry on the tongue, without more than one grain of sugar of milk as a diluent, and without any fluid to wash it down.* Repeat the dose in bad cases every half-hour till it produces copious yellow stools. When administered strictly as above directed, it is almost never vomited, and the effect is nearly always most happy.

Another remedy of approved value is arsenite of copper, but it must be given in very minute doses in order not to disagree. You may dissolve one of the $\frac{1}{200}$-grain tablets in five or six teaspoonfuls of water, and, when the symptoms are very obstinate, administer a teaspoonful every half-hour, in alternation with the calomel powders.

Both the calomel and cuprum arsenite are equally helpful when the gastritis is complicated by diarrhea, with thin, watery or offensive stools.

In that case the calomel will need to be stopped as soon as the change in the character of the stools shows its action.

When violent pain persists after the stomach has been completely emptied, it means, usually, that a portion of the fermenting gastric contents has passed into the intestines and affected that region. The action of the calomel may, in such cases, have to be supplemented by copious enemata, to which sulphate of magnesia, or even castor oil and turpentine, may be added, if necessary. These enemata are also desirable in the cases marked by obstinate constipation which the calomel alone does not speedily overcome.

When the acute stage is over, bismuth often proves the best remedy for the subacute catarrhal condition which tends to linger and become chronic in some cases. It needs to be borne in mind that an often unrecognized chronic gastritis is one of the most frequent predisposing causes of acute attacks. After evacuating the bowels thoroughly, it may be necessary to resort to rectal alimentation in stubborn cases, especially when the patients are weak. Feeding by the mouth should be gradually and cautiously resumed. Among the first things to agree will probably be clam broth, peptonized milk, whey or fresh milk prepared with Eskay's Food. This last is a very valuable addition to our stock of suitable preparations in cases of debilitated or irritable stomachs, whether in adults or children. Bovinine is another suitable food.

In toxic gastritis there is an even greater necessity for emptying the stomach immediately and thoroughly, and you should not hesitate to wash it out with the help of the tube, when it is possible to introduce it. The next step must be to administer the appropriate antidotes, both chemical and physiologic, and after that to treat the corroded membranes locally by mixtures of bismuth and lime water or other emollient and healing remedies.

In alcoholic gastritis, which may be considered a sub-variety of the toxic form, the treatment may be much the same as in simple gastritis, except that considerable stimulation and an earlier resumption of feeding will be necessary. Beef extracts, raw eggs and other strongly-concentrated nutriments will be in order, though the milk preparations advised for the ordinary cases will also be appropriate. Bismuth and lime water often prove curative in this form after the extreme irritability of the first stage has been measurably abated. Drop doses of Fowler's solution have been lauded in this affection, but the minute doses of cuprum arsenite already mentioned have helped more in my hands. These are cases in which the sufferers, on account of the unquenchable thirst, are most inclined to go on drinking large amounts of iced water or other drinks, in spite of the fact that they are immediately vomited. I have often seen a slop jar filled with gallons of fluid which has, within a few hours, been poured down by such a patient, only to return instantly, with the result of increasing the irritability. In addition to carefully-regulated doses of stimulants, general nerve sedatives are usually indispensable in such an aggravated condition.

SPECIAL TRANSLATIONS.

THE TREATMENT OF STRICTURE OF THE ESOPHAGUS.[1]

BY E. LAMBOTTE.

Translated especially for the INTERNATIONAL MAGAZINE from *La Presse Médicale Belge.*

THERE are few situations as lamentable as that of those unfortunate people afflicted with stricture of the esophagus. Inanition quickly overtakes them, and it is in a state of extreme physical weakness that they see death stare them in the face. Doctors have always been devising some means for their relief. Therapeutics, too, contains many remedies; their number at once testifies to their inefficiency and to a solicitude which is an honor to the profession.

It would certainly take too much time to review them all, and such is not my intention, but having had occasion to apply a great number of the proposed means, particularly the more recent ones, it seems to me it would be of interest here to note some of the observations I have made.

The nature of the lesion governs the therapeutics in stricture of the esophagus. The first question should be, Is it cancerous, or not? If it is not, if we have to do with a cicatricial or syphilitic stricture, in a word, benign, it is permissible and rational to employ a treatment that is curative, even if it is long and tedious. In such a case, the benefits to be derived are worth great sacrifices, as, if the obstacle is once overcome, the patient may live an indefinite length of time.

On the contrary, if the lesion is cancerous, the patient is condemned to certain death; life may be, at most, prolonged for a year or a year and a half; this is too short a time for the employment of a lengthy treatment. What we want is immediate intervention, that will, in a few days, place the patient in a condition to take nourishment and continue his daily life. It is to these cases particularly that I propose to allude.

There are three important methods of treatment in cancerous stricture of the esophagus:

1. Dilating by bougies.
2. Intubation of the esophagus.
3. Gastrostomy.

1. Catheterizing in these cases is only valuable as a means of diagnosis, as the dilatation obtained is only temporary and can only give important results when repeated very frequently. This treatment becomes a veritable torture, which it is cruel to impose on the patient. It is, besides, not without danger, and, doubtless, we all remember the unlooked-for accident that befell one of our most eminent practitioners a few years ago. The doctor, though of wide experience, saw the instrument penetrate one of the larger arteries of the mediastinum, already, perhaps, ulcerated by the neoplasm,

[1] A communication made to Medico-Chirurgical Society of Brabant.

with an immediate frightful hemorrhage. Those who know the difficulty of passing even a small sound will not be astonished at such an accident. In fact, it is often necessary to use force, while, on the other hand, the friability of certain cancers is such that they are easily penetrated by the instrument employed with even the slightest possible force. To decrease as much as possible this danger, I have modified the classic instrument of Trousseau. The olive-shaped head is grooved by a blunt screw thread which permits it to progress by rotation instead of pressure. This instrument finds its way, in a sense, into what remains of the lumen of the esophagus in the center of the cancerous ring. Having passed the stricture, the instrument is withdrawn without rotation, and a few fragments of the neoplasm come with it. The passage is thus open for a few days, and it becomes easy to proceed with intubation, which we will describe presently.

This is all that can be expected from catheterism, which, we repeat, is an excellent means of diagnosis and a detestable method of treatment, since the open passage closes afresh in two or three days and prevents deglutition.

2. Intubation of the esophagus has the advantage of rendering the acquired dilatation permanent and of placing the patient immediately in an almost normal condition. Numerous instruments have been described that are very complicated in practice. They appear to us to be useless. We turn to a simple Fancher tube, the size of our spiral olive. We choose the large or upper extremity with the enlarged funnel-shaped end found on those that are in the market. We cut away all that is superfluous; the funnel end should always be preserved. Below there remains a section of the tube proper about 7 to 8 cm. in length. Grasping the larger portion in a forceps employed for removing foreign bodies, it is carried as far as possible, immediately after the withdrawal of the olive bougie. The first swallows bring the funnel-shaped end in contact with the surface of the stricture, which it cannot pass. The tube is tolerated perfectly, even when the strictures are high up. It goes without saying that the patient can from henceforth take only liquid nutriment. But the result is surprising; as a rule, the patient is enabled to resume his occupation at once. The moral comfort is very great, and the only thing to be said against this method is the inconvenience of vomiting it up, sometimes. However, this is exceptional. I have seen this only twice in six months, in the case of a patient who had carried the tube for nearly a year. It was not repeated after I had furnished him with a larger tube. This mode of intubation is better than that which consists in placing a thin rubber tube in the esophagus (about 3 mm.), which enters through the nostril and passes through the pharynx and esophagus into the stomach, and by which, three or four times a day, liquid aliments are injected into the stomach without withdrawing the tube. In this case the patient is an invalid. He has no longer the satisfaction of tasting and swallowing his food normally, advantages which he retains in the preceding method. Moreover, he is tormented by the constant presence of the tube in his nostril and pharynx, and is less able to bear these sensations than those of a concealed tube.

Compared with gastrostomy, intubation has this advantage, that it does

not require chloroformization or the opening of the abdomen, and, consequently, the convalescence and confinement in bed which they entail. To my mind, it is the operation of choice in the majority of cases, and I have recourse to it willingly in cases where gastrostomy would otherwise be indicated. Where gastrostomy is indicated, I proceed as follows: The epigastrium having been laid open by a median vertical incision, I seize the stomach and make a vertical opening, 5 cm. long; through this I pass my finger to the cardiac orifice. The esophageal sound having been introduced by the mouth, I attempt, by a double maneuver, facilitated by the sense of touch, to pass the obstruction. If I succeed, which is nearly always the case, I immediately perform intubation as I have described it, but with the following modifications: The intubation canula is fixed by a thread to the upper extremity of my bougie, which is perforated for this purpose, as it lies in position. In drawing the bougie through the gastrostomy wound, I draw the canula down until it becomes tightly fixed in its place. The bougie serves, after a fashion, as a needle. I then cut away in the stomach any excess of the canula. I affix to it a piece of rubber tube, shaped like a cross, which makes expulsion from this time impossible. The two tubes are fastened together by a few silver wire stitches. The tube is easily tolerated and resists strongly. It resists in its inferior portion, where it is exposed to the action of the gastric juices. I can affirm, from an autopsy, that three months had passed and hardly a trace of alteration was present.

I have also had silver tubes constructed for the same purpose, but they seemed to me inferior, and are only needed in cases where life may be exceptionally prolonged. The larger extremity consists of a funnel, flattened from before, backward, to conform to the shape of the esophagus; to this is attached an American tube (a tube formed of a metal spiral, of which the turns touch, and thus render it flexible). When the tube is in place, I do as in the previous case. I cut off in the gastric cavity the excess of the tube and affix to it a transverse piece by means of a screw to prevent its expulsion during vomiting. This done, one is certain that the intubation canula is kept firmly in place, and that the cardia is not compressed by the cross piece. The gastric wound is then sutured by the ordinary method and the abdominal wound closed.

I would call especial attention to the great utility of the bimanual catheterism, which I have just described. I find it also applicable in cicatricial strictures. I consider it the preferable means in this condition in all cases where dilating catheterism is impossible. One cannot believe, without having experienced it, the security and the power that it gives. If the stricture is cicatricial, it is needless to say intubation is not required. It is better worth while to try to obtain a large dilatation, and then maintain it by repeating the dilatation, which can afterward be made with great ease. In one case of this kind, where I had succeeded in breaking through the obstacle several times with the large olive-shaped bulb of Trousseau's bougie, I congratulated myself on having had the foresight, before closing the abdomen, to fix the stomach to the abdominal wall, thus preparing for a gastrostomy that only needed a simple cut with a tenotome to be complete. Three or four weeks afterward, symptoms of obstruction appeared, throwing

the patient into such a weak condition that an ordinary gastrostomy would have been dangerous. A small incision permitted me to nourish the patient and to assure his recovery. The intubation of the esophagus in cancerous strictures has given me such satisfactory results, that I have in two cases applied this method to stricture of the pylorus. I shall return to this question, which is worthy of particular attention. It is sufficient to say it seems to me it might be often substituted for gastro-enterostomy. Indeed, under certain circumstances, it has this advantage over that operation, that it is simple and gives greater security.

3. There are cases in which intubation is contraindicated (cicatricial and insurmountable cancerous strictures), here the only resource remaining is gastrostomy of the patient as to escape death by inanition. Numerous methods have been published that are intended to diminish the inconveniences resulting from operation. What we must certainly not lose sight of is the necessity of making a very small opening and at a point as far removed from the dependent portions as possible, to prevent its spontaneous dilatation. I will not describe any of the classical operations, but confine myself to my own method, which has given for some time past such satisfactory results that I do not deem it necessary to seek a better method. I operate as follows:

The abdomen having been opened, I draw the stomach forward and insert four sutures of silk in the anterior wall, as near the cardia and lesser curvature of the stomach as possible. These sutures mark out a quadrangular area 15 mm. square, formed by the stitches, of which the ends remain free. Having raised the liver, I assure myself that none of the intestines are interposed between the abdominal wall and the stomach; a Revendin needle is then passed through the abdominal parietes at a distance from the original wound; the ends of the stitches placed in the stomach are drawn out by it. They are then fastened, and thus serve to fix the viscus and promote adhesions. I then open the stomach by a vertical incision opposite the parietal wound in the abdomen. Through this incision two fingers are passed into the stomach, which serve to guide a trocar, 3 mm. in diameter, which is held in the other hand and forced through the abdominal wall and the wall of the stomach at the same time in the area marked by the sutures. A very fine rubber tube is introduced through the canula and the canula withdrawn. The patient is then to be fed through this tube. The tube will later work loose in the fistula. There will then remain a narrow fistula, the obliqueness of which assures perfect drainage. The gastric and abdominal incisions are then closed.

This method removes the artificial mouth from the larger abdominal wound, which is in excellent aseptic condition. This is an advantage not to be despised, as the weakness of the patient sometimes renders cicatrization slow and difficult, and, in cases where inanition has gone very far, it is not rare that after eight days the wound, though aseptic, has attained only insufficient solidity and reopens as soon as the sutures are removed.

In addition, the fistula is not apt to dilate; it is made as high up as possible; it is surrounded by healthy skin; all of which are favorable circumstances, as they tend to prevent leakage and ulceration from the gastric

juices. The execution is comparably rapid, and the aseptic conditions, which are assured, give exceptional guarantees of benign healing.

However briefly we treat the question of strictures of the esophagus, we cannot leave it without speaking of two therapeutic methods, the judicious application of which may procure the most brilliant success. They are nearly always employed to put the patient in good operative condition. I refer to nutritive enemata and injections of artificial serum. The nutritive enema that I have employed is composed of bouillon with sugar and peptone added. The bouillon furnishes the mineral elements of which the utility has been amply demonstrated; sugar, the best respiratory food, may be absorbed in sufficient quantities by way of the rectum; lastly, the peptone completes this alimentation so that it complies with nearly all the physiological requirements. It is the evident physiological considerations that have led me to the use of this formula. But it must not be forgotten that, to obtain the best results, such quantities must be used as are demanded by the age and weight of the patient. I generally prescribe injections of 125 gms., containing two or three tablespoonfuls of dry peptone, and six or eight lumps of sugar, repeated every hour, as regularly as possible. It is difficult to have more than ten absorbed each day. The patient is thus sufficiently nourished, but suffers from thirst; indeed, it is thirst which is most urgent, and it demands the first relief. When one needs to be assured of the urgency of intervention in the case of these patients, it is not necessary to ask them if they are hungry. Even in cases of extreme emaciation, they declare they are not hungry. The mental condition, added to the thirst, is not compatible with hunger. Thirst is present, although liquids have been swallowed some time after solid alimentation has ceased. Where it appears, the urgency is great, as the unfortunate patient soon falls into an extreme cachexia. It is especially in such cases that we ought to study the aqueous inanition to which we drew attention some years ago. In a few days the loss of water rises to several kilograms. It is thirst more than hunger that is the cause of the emaciation and adynamia. In operating, one is astonished to find a noticeable layer of fat, which contrasts with the thinness of the patient.

In one case I have been able to measure by weight the approximate importance of the deficiency of water. In three days, during which I administered nutritive injections and three liters of serum every twenty-four hours, the weight rose to 8 kilograms (20 lbs.), and showed by its vacillations that the watery deficit was nearly 8 liters (8½ qts.) !

It is in the muscles that the loss of water shows; the examination of the blood, on the contrary, reveals the normal density, or nearly that. It is the muscles that store it up, and this also explains the rapidity of the return to normal stoutness. In the normal state the muscular system contains half of all the organic water.

What we have just said shows that the nutritive injections sufficiently nourish the patient, but that often there is an insufficiency of water, and this is especially true during the heat of summer, or when the patient is in too warm a room. Nevertheless, they are remarkably powerful, and there is no doubt that by judicious care life may be prolonged some months.

In practice, these views are not always substantiated; sometimes the patients neglect the minutiae of the prescription and allow themselves to fall into an adynamic condition. I have seen a patient who had arrived at the most advanced stage of inanition, and who was so weak that the radial pulse was scarcely perceptible, recover her strength by these methods alone, and so completely that she left her bed and followed her occupation for three weeks. But soon an insurmountable ennui caused her to abandon her treatment, and she allowed herself to die, stubbornly refusing either operation or injections. Needless to say, she had listened to one of the good old women who will not listen to any talk of an operation.

What we have just said regarding the usual insufficiency of watery alimentation by injection justifies the subcutaneous injections of artificial serum and indicates it at the same time. It is a very forceful medication and needs to be judiciously applied. To employ it perfectly, one only needs to regulate the dose. This ought to be large and the administration fractional. One can make sure by two measures that the necessary dose is reached: by the cessation of thirst and by the weight remaining near the maximum obtainable. So long as these results are not attained, the method has not been sufficiently applied, and the results it attains cannot be hoped for.

A Barbarous Custom in Darkest Russia. In connection with a report of a case of vaginismus produced by tearing the hymen with the finger at the first copulation, Dr. Kalmikow relates, in the *Vratch,* the following custom prevalent in some parts of Russia: The proof of virginity is established by the finding of blood on the chemise of the bride after the first coitus. If she proves to be a virgin, the wedding celebration is especially joyful, and a red flag is hoisted on the house of the newly-married, a similar flag being carried in the wedding procession. But if the bride "sinned," the programme is changed, and insulting remarks are showered upon the bride and her parents. The question of virginity being the only one that determines the character and course of the celebration, the young couple are placed, immediately after the ceremony, in a room, the crowd standing at the door impatiently awaiting the result. The young husband is often instructed to tear the hymen with the finger, should he find himself unable to accomplish the act rapidly in any other way. If he fails even then, the best man comes to his rescue and performs the digital operation for him. After the act is accomplished, the "friends" make an expert survey of the blood-stain, and the result is communicated to the anxious parents. And this brutal act, the author remarks, takes place in the very midst of the clergy, teachers and other intelligent people inhabiting these districts.

Corrosive Sublimate in Stomatitis. Dr. Tenneson, as well as other noted French physicians, employs sublimate soap in the treatment of infectious glossitis and stomatitis, even when the latter is produced by calomel. The soap is best rubbed in the gums by means of a stiff tooth-brush. The only objection is the discoloration of the teeth produced.

REVIEW OF MEDICAL AND SURGICAL PROGRESS.

INTERNAL MEDICINE GENERALLY.

UNDER THE CHARGE OF

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Treatment of Appendicitis. Dieulafoy (*Gaz. des Hopitaux,* Jan. 31, 1899), discussing a paper by Chauvel on "Appendicitis in the Army," calls attention to the fact that, as is the well-known rule, the cases cited rarely show any preceding trouble with the digestive tract, no gastric or intestinal troubles. Thus these 171 cases serve to show that appendicitis is a distinct entity, and not a part, or caused by colitis or entero-colitis. Eighty-three of these cases were treated medically, 88 had surgical intervention; of the 83 medical cases, the treatment being either opium or purgation, 30% died. They died of general suppurative peritonitis, peritoneal septicemia, or a general infection. In the 88 cases treated surgically, the mortality has been 31.8%. Dieulafoy had himself seen 61 cases, assuming the responsibility for these either alone or in consultation. Not believing at all in medical treatment for appendicitis, these were all sent to the surgeon, with the result that in the first 40 cases 6 died, and, in the next 21 cases, 1 died, a total mortality of 11.1%. Even this mortality, he thinks, would have been decidedly reduced if an operation could have been done earlier. He explains the fact that his statistics were so much better than those of Chauvel by the early operation, not a moment being lost when the condition was realized. He thinks, further, that the mortality could be reduced to nil if the operation could always be performed early enough.

Hyperacid Pretubercular Serum. Gautreles (*La Presse Med. Belge,* No. 47, 1898) makes a preliminary report on this subject, his experiments not having been carried far enough to be absolutely conclusive. He starts with these assumptions: The soil plays quite as important a role in the evolution of tuberculosis as the bacillus itself. All bacterial infection has, as a consequence, an auto-infection due to an absorption of the products

of secretion of the bacilli. The secretions of the tubercle bacillus belong to two opposite groups: a toxin, hypothermic and vaso-constrictor; and leucomaines, hypothermic and vaso-dilator. The differences in the development of tuberculosis are due to the preponderance of one or the other of these secretions. Finally, animals refractory to tuberculosis have an acid soil; those who have survived tuberculosis show the same soil, and beneficial medicines are those which acidify the organism. He cultivated bacilli of human tuberculosis in an acid medium, and injected the product, after sterilization. The following conclusions are reached: On serum acidified with 4% of lactic acid, abundant cultures can be obtained. These cultures resemble those of avian tuberculosis. Contrary to the conditions obtaining in an alkaline medium, the toxins secreted are hypothermic and vaso-dilator. Animals receiving a toxic dose of this acid serum die in a tetanic state and with evidence of general congestion. Animals injected with increasing doses finally sustain a toxic dose.

Chronic Tuberculous Peritonitis Cured by the X-Rays. Ausset and Bédart (*L'Echo Med. du Nord.,* No. 46, 1898) had treated a case of unquestioned tuberculous peritonitis in a girl of nine years, by tapping, abdominal section, renewed tapping, and washing out with a creosote solution, with no good result. In fact, during this treatment her condition grew steadily worse, and the tuberculous masses in the abdomen steadily enlarged. March 7th, she was first subjected to the X-rays, the Crookes' tube being placed 20 cm. from the surface of the abdomen for 10 minutes, two days later at 13 cm. Throughout the month the treatment was continued every 2 or 3 days. During most of April the treatment was unavoidably discontinued, to be resumed toward the end. By the last of May there was absolutely no abdominal effusion. From this on she steadily improved, gaining weight and strength, until she became apparently well. The X-rays produced no dermatitis, merely a decided pigmentation of the exposed region, which could still be seen 90 days after cessation of treatment.

On Enteroptosis. Obrastzow points out the necessity of establishing a normal limit to the abdominal organs before their sinking can be definitely established. The lower boundary of the stomach lies about 2 to 4 cm. above the navel when the person is in the recumbent position. In women it is somewhat lower. This position changes under different physiologic and pathologic conditions; thus, the position of the stomach will be much lower when nutrition is impaired. Enteroptosis may also be caused by a relaxation of the abdominal muscles, due to either some pathologic changes in the muscles themselves or faulty innervation, as is the case in frequent pregnancies, obesity, neurasthenia, etc. Congenital enteroptosis is never found. On the other hand, it may develop in children suffering from inherited diseases or badly nourished. In them it usually develops about the time of puberty. As to the treatment, the author considers the diet-cure of primary importance. A well-fitting abdominal supporter is a good palliative. In the neurasthenic, the treatment should be directed to the conditions present.

DISEASES OF THE CHEST.

UNDER THE CHARGE OF

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Polypoid Intratracheal Tumor Causing a Flapping Inspiratory Murmur in the Lungs. Brauer (*Deuts. Arch. für klin. Med.,* Feb. 9, 1899) reports a case showing the lesion mentioned. It occurred in a woman, aged forty-eight years, who had suffered for three years with a feeling as if something was flapping back and forth in her neck. She had a harsh, unproductive cough, restless nights, considerable dyspnea during the day and inability to work because of the difficulty in breathing that exertion produced. Examination by the laryngoscope showed a small tumor attached to the trachea wall by a pedicle which came forward against the anterior wall in inspiration, and during expiration fell back under the true vocal cords. Stridor was present only at intervals. Over the upper portion of each lung there could be heard a short, flapping murmur, that occurred soon after the commencement of inspiration; was heard loudest naturally over the larynx, and could not be detected in the lower half of the thorax. The character of the murmur and its time were, of course, explained definitely by the flapping of the tumor against the trachea wall when it was drawn down in inspiration. It was removed by operation, and was found to measure 12 mm. in diameter. The pathologic diagnosis was that of hemangiosarcoma.

The Occurrence of Crepitant Rales (Knisterraseln) in Cases of Pleural Effusion. Janowski, of Warsaw (*Zeitsch. für klin. Med.,* Bd. XXXVI., Hft. 1 and 2), describes a crepitant rale that occurs in cases of pleurisy with effusion. These are small, very soft in character, moist, very superficial, very regular in rhythm, and heard only during inspiration. J. has observed them in a number of cases during the last six years, and claims that he has never failed to find a pleural effusion by exploratory puncture in cases in which they were present. He claims that their diagnostic value lies in the fact that they occur oftenest in instances when the amount of fluid is small and the other symptoms of the condition are not well marked. They may be heard, however, when there is considerable fluid, and, on the other hand, their absence does not exclude an effusion. They are distinguished from the crepitant rale of the first stage of pneumonia by their soft, moist character; from the small rales arising in the smaller bronchi by their superficiality, regular rhythm, and the fact that they occur only during inspiration; from the *crepitatio redux* of pneumonia by their regularity and

by their uniform smallness; and from the small rales of edema by the fact that they are always small and unmixed with larger sounds. If the crepitations occur after tapping an effusion, it is an indication that there is fluid remaining. The crepitations occur in exudative pleurisy during inspiration, from the breaking apart of the walls of the air vesicles, which have adhered together during expiration. The fluid in them is not increased above the normal amount found in the alveoli and needed there to maintain the natural moisture of the part, but the pressure of the effusion presses their wall together more firmly than normally and causes them to adhere. Different factors play a part in the production of these phenomena besides those mentioned. Especially the normal elasticity of the lung tissue must be taken into account. It is likely that the quick and intense congestion of the lung, due to interference with its circulation, causes a decrease in resistance, or some infective agency may take a part in the process of producing a local weakening, and so the complete collapse of the alveoli in expiration is favored. As the power of resistance of different lungs varies, it can be readily understood why sometimes a small amount of effusion may cause the crepitations to appear, and in other cases a larger amount is required. J. explains the "soft, moist" character of the rales in which they differ from the crepitant rales of pneumonia, partly by the different character of the fluid in the alveoli, which in pneumonia is probably fibrinous; and partly by the fact that the presence of a layer of fluid between the lung and the ear changes the physical character of the sounds. J. concludes his paper by a review of the different authorities on the pleura, showing that no observations upon the true significance and causes of the crepitations have been recorded up to the time of publishing his paper.

DISEASES OF THE DIGESTIVE SYSTEM.

UNDER THE CHARGE OF

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The Influence of Cod Liver Oil on the Secretion of Gastric Juice. Wirshillo (*Vratch,* Jan., 1899) has made a number of experiments with a view to determine the character of the gastric juice when various quantities of cod-liver oil have been added to the food. The experiments, 15 in number, were made on children free from any gastro-intestinal disturbance. No change in the mode of life was made. Each investigation was divided into two parts. (1) A test breakfast, consisting of 200 to 400 grms. of milk, was given, and the stomach contents analyzed in 1½ and 2½ hours; (2)

the same test breakfast, with 8 grms. of cod-liver oil. The analysis of the stomach contents covered the following points: 1, total acidity; 2, amount of HCl (free and combined), and, 3, the digestive power. Phenolphtalein and Töpfer's method were used as indicators. The digestive power was determined by the method of Metta. As a result of these investigations, the following conclusions were reached: 1. Cod-liver oil diminishes the amount of HCl and pepsin, the latter being more affected in the beginning of digestion. 2. The disturbing effect on the gastric juice is especially marked at the beginning of digestion. 3. The secretion of the gastric glands, though weakened by the oil, lasts longer than usual. The author then concludes that, in view of these objectionable features of cod-liver oil, we should, by further experimentation, find another oil equally efficacious but not injurious to digestion.

Concerning the Influence of Sex in the Transmission of Cancer of the Stomach. Emile Lairé, of Carignan (*Gaz. des Hopitaux,* No. 4, 1899), cites some interesting statistics, which show that in France, at least, cancer of the stomach is greatly more frequent in men than in women. He quotes from a report made some years ago by Rebulet, of Normandy, describing 106 cases of cancer, and particularly cancer of the stomach, but almost exclusively in men. The population of the region was composed largely of workers in cloth, and husbandmen. They all drank liberally of strong cider, as much as 2 litres at a meal, and frequent dyspepsias and dilatations resulted. Rebulet, himself, stated that the women drank as freely as the men. Of 23 cases of cancer of the stomach studied by Rebulet, only 1 was in the person of a woman. Manichon, of d'Oulchy-le-Chateay, is cited as having observed, in 23 families, 41 cases of gastric cancer in men and 16 in women. These observations are thus summarized:

First Series.....	23 cases in men;	1 in women.
Second Series.....	41 cases in men;	16 in women.
In all.....	64 cases in men;	17 in women.

The author infers that there must be a far greater predisposition in the male than in the female to acquire such neoplasms. He asks why this should be, considering that the two sexes live under the same conditions, eat the same food, drink the same beverages, etc. [Possibly, in the parts of France referred to, there is such an identity of living conditions affecting the sexes, but we doubt it. In most Christian countries the men of the working class, especially, consume much more alcohol and tobacco than women.—B. R.]

Some Suggestions as to Diet in Diseases of the Stomach. Bettmann (*Cincin. Lancet-Clin.,* Dec., 1898) reprimands the existing relations of most physicians to the subject of dietetics. He denies the wisdom of the traditional rule that "each man is the best judge of his own diet," or "what is one man's meat is another's poison." These maxims are applicable only in a few exceptional cases. Generally, the patient's diet should be subjected to as much scrutiny and circumspection as any other method of treat-

ment. Patients suffering from disturbances of the gastric function will not get well on internal medication unless the strictest attention is paid to their diet. Equally reprehensible is the other extreme of restricting the diet too much. Many patients treated by a rigid diet are actually suffering from slow starvation. The most striking symptoms such patients present are considerable loss of weight, dryness, a grayish-yellow, cachectic appearance of the skin, and abnormally slow pulse and respiration. They often complain of a gnawing sensation at the pit of the stomach, which is temporarily relieved by taking food, but returns an hour or so later. An exclusive milk or beef diet will eventually lead to wasting and anemia if the patient be actively engaged. In cases where an exclusive diet is necessary, it should be restricted for the shortest time possible, the patient gradually and cautiously returning to a general diet as improvement advances. While the diet-table should be arranged according to indications presented in each case, a few general principles may be laid down. As a general rule, large draughts of hot water will benefit only those who are well nourished and whose digestive system is in a state of sufficient muscular tonus, but will do harm in cases of atonic dyspepsia; the latter will do best on a dry diet, taking very little fluids with meals. In hyperchlorhydria, sour foods and starches are distinctly harmful. Starches are also contraindicated in fermentation, but when the latter is absent, potatoes, rice, farina and wheat flour may be allowed. Coffee is harmful in most cases, especially when taken at breakfast. Fried food of any kind should be interdicted in all cases of dyspepsia. Contrary to the general belief, baked apples are more difficult to digest than raw. Peaches, especially raw, are harmful. Pears are very prone to disorder the bowels. Sweet potatoes induce intestinal flatulence. Pineapple juice is often an aid to digestion. In conclusion, the author remarks that "every physician who treats dyspepsia should study foods thoroughly, not only in the laboratory and text-books, but in the kitchen and the clinic." [There is an abundant experience which tends to disprove the correctness of the writer's dictum as to raw and baked apples.—B. R.]

NEUROLOGY.

UNDER THE CHARGE OF

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Tumor of the Hypophysis without Acromegaly. Burr and Riesman (*Jour. Nerv. and Ment. Dis.*, Jan., 1899) report such a case, and argue from it as to the etiology of acromegaly. The patient was a blind woman, with post-neuritic atrophy in both eyes, some rigidity of legs and spastic knee-jerks, ankle clonus on one side, a variable mental state, and a history of

comatose attacks. The tests of the sense of smell were not reliable. She died in coma. At the necropsy a tumor was found, involving, but not destroying, the hypophysis. The relation between disease of the hypophysis and acromegaly is probably an intimate one. In favor of such a belief, the writers find that in 58 out of 61 cases of acromegaly, the hypophysis was diseased, the lesions being various. In many cases there are symptoms of brain tumor, and in those seen sufficiently early, hemianopsia is often observed; the visual symptoms increasing with the increase of bony symptoms. Reasoning from analogy, there is no reason why hypophysial disease may not cause acromegaly. Against the hypophysial origin they find that disease of the hypophysis may exist without acromegaly. In none of the reported cases of this kind, however, is complete destruction of the gland mentioned, and a small amount of glandular tissue may do the work of the whole, or may exercise an inhibitory influence on the growth of the bony extremities. Acromegaly may exist without visual symptoms. Almost all the ductless glands have been found diseased in acromegaly, but none so frequently as the hypophysis. The hypophysis has been experimentally destroyed in dogs without the production of acromegaly, but the function of the gland in man and in the dog may not be similar. The writers believe that acromegaly is due to disease of the hypophysis, but that the lesion must affect the entire glandular structure.

The Treatment of Tetanus by the Intracerebral Injection of Antitoxin. Semple (*Brit. Med. Jour.*, Jan. 7, 1899) gives a clinical account of a case treated successfully by intracerebral injection, and expounds the theories upon which he founds his treatment, giving due credit to Roux and Borrel, as well as to Wasserman. Tetanus is due to a very strong toxin, elaborated by the tetanus bacillus at the point of inoculation. The toxin reaches the central nervous system by two paths: one, the nerves; hence the early contractions observed in some cases at the site of absorption; the other, the blood stream. When it reaches the central nervous system, it is seized upon and fixed by nerve cells just as anilin basic dyes are fixed by cell nuclei or bacteria. This fixation takes place earliest in the spinal cord. The affinity between tetanus toxin and the cells of the brain and spinal cord is very strong, hence the toxin is designated a neurotrophic poison. In a healthy animal immunized by a hypodermatic injection of antitoxin, tetanus toxin is neutralized when administered subcutaneously, and never reaches the nerve cells; but an intracerebral injection in such an animal will cause death, apparently proving that tetanus antitoxin, used hypodermatically, does not immunize the brain cells. In a case of suspected tetanus, the hypodermatic injection of antitoxin is an almost certain preventive, but if the symptoms have appeared, intracerebral administration alone conveys immunity to the nerve centres and prevents fixation of the toxin. Performed early, the operation arrests the progress of the disease, and, after a shorter or longer persistence of the symptoms, recovery is likely. The seat of operation, as done by Semple, is anterior to the motor areas of the brain. Very small openings are made in the scalp and skull. A needle with a rounded point (to avoid the production of hemorrhage) is used with a screw piston

syringe, and 2½ c.cm. of double-strength antitoxin are injected, drop by drop. Twenty c.cm. hypodermatically, in addition, are given daily for three or four days, to neutralize the toxin as it becomes absorbed from the source of supply.

MEDICAL DISEASES OF THE KIDNEYS.

UNDER THE CHARGE OF
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Report of a Case of Double or Fused Kidney. Broody (*Medicine,* Feb., 1899) reports a case of a male, 65 years old, suffering from melancholia and pulmonary tuberculosis. At autopsy there was found a small adrenal on the left side in its normal position, but no kidney. Where the kidney should have been there was a small round body ¼ inch in diameter, which was thought to be a diminutive, non-functional kidney. There was no blood supply to it direct from the aorta and no ureter. Microscopic section showed it to be a supernumerary spleen. It was farther removed from the spleen than such bodies usually are. The adrenal on the right side was much larger than that on the left. The right kidney was large, measuring 5½ inches in length, 3 inches in its greater width, and 2¼ inches across its narrowest portion. Over its upper half was a depression with an average diameter of 1¼ inches, the uppermost edge of which corresponded to the internal border of the kidney. From the pelvis originated a ureter, which passed downward and outward to the right, over its anterior surface, and left it at the junction of the external with the inferior border. Thence it took a rather tortuous course across the common iliac artery at its bifurcation, entering the bladder at the usual point. On the lower portion of the inferior half of the kidney was a depression 1½ inches in diameter, and from this pelvis originated another ureter which passed downward and outward to the left through the pelvic tissue, across the right common iliac artery at a point 1½ inches below the bifurcation of the aorta. After reaching a point a little to the left of the border, it turned to the right and opened into the bladder at about the normal place. In 500 necropsies examined by Dr. Broody, double or fused kidney with two pelves and two ureters, as herein described, occurred once only. From the foregoing it would appear that such kidneys do not occur as commonly as supposed.

A Fallacious Test for Albumin in the Urine, with Remarks on the Best Tests. Ludlow (*Med. Rec.,* Jan. 7, 1899) demonstrated by a series of painstaking experiments the utter unreliability of the alcohol test

for albumin, as advocated by Dr. John G. Truax. He finds that it reacts with urine not containing any albumin, as shown by the control tests by heat and nitric acid, and does not react with urine highly albuminous. It also gives a reaction with concentrated urine, failing to do so when the urine is diluted. The reaction bears no relation to either serum-albumin or mucin, and while the author cannot explain the cause of the precipitate in the cases in which the reaction does occur, he is, nevertheless, certain that it is not albumin. The best test for the latter is still the old heat and nitric acid, although the author favors the nitric-magnesium test as the most delicate of all.

Some of the Clinical Aspects of Granular Kidney. West (*Lancet,* Feb. 25, 1899), in the course of his Lettsonian Lectures, stated that in the granular kidney the albumin is slight in amount and usually intermittent. The albuminuria is often the only symptom present, and it is difficult to decide the pathologic condition underlying it. He divides the various forms of albuminuria into the following five groups:

Albuminuria	Prerenal	1. Obvious cause, *e g.*, morbus cordis, fevers, etc.	Physiologic.
		2. No obvious cause.	
	Renal	3. No evident renal disease.	
		4. Evident renal disease.	
	Postrenal	5. From urinary passages, etc., generative organs, vagina (accidental).	

Albuminuria has followed in certain persons an excessively albuminous diet, excessive exercise, cold baths and exposure. It may also be found intermittently in certain persons under various circumstances, in subjects apparently healthy. An examination of 336 healthy persons, made by Mr. Levison, at the request of the author, revealed the presence of albumin in some form in 136, or 40.47%; serum-albumin occurring in 22.02%, and nucleo-albumin in 18.05%, the amount in all cases being extremely small. Various other observers have similarly noticed the frequent occurrence of albuminuria in apparently healthy persons. The observations of these authors differ, largely on account of the different tests used, and, therefore, the desirability of a standard test is quite apparent. In drawing conclusions from these observations, the ages of the individuals in whom albuminuria was found are to be taken into consideration. Its occurrence is less frequent up to the age of 10; exceedingly frequent between 10 and 18, the so-called albuminuria of development; quite common between 18 and 25, and comparatively infrequent between 25 and 30, forming, during the latter age-period, about 0.55%. This form of albuminuria the author calls latent albuminuria. It is never, strictly speaking, physiologic, and while in many cases it may disappear without leaving any morbid condition of the kidneys, in others renal disease ultimately develops. In general, however, its significance is less up to the age of 25 than after that period, the chances of the development of renal disease increasing with the age. This has an important bearing on life-insurance. The author accepts the rules formulated by Rabagliati: 1. Over 40 years of age, reject. 2. Under 40 years of age, load heavily; and, 3, in young adults, rate up moderately. He takes

exception, however, to the third rule, believing that many cases between 18 and 25 may be safely accepted. The existence of albuminuric retinitis and amblyopia is always a grave prognostic sign. These disturbances of vision occur usually late in the disease, and, as a rule, when patients begin to complain of some defect of vision, the disease is already far advanced.

DERMATOLOGY.

UNDER THE CHARGE OF

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The Blue Glass in Syphilography. Jullien (*Annales de Dermatol. et Syphilog.*, Jan., 1899) discusses the value of the blue glass in the recognition of syphilitic eruptions. This procedure was first suggested by André Broca, in 1893. He then claimed for it the following possibilities: (*a*) The discovery of an eruption before it is apparent to the naked eye; (*b*) the revelation of traces of former eruptions; (*c*) the revelation of indefinite eruptions (eruptions frustes). Before the eye is able to clearly distinguish the roseola, its elements are discoverable by the blue glass, sufficiently often to remove all doubt. Of recent years the relatively large proportion of cases of syphilis that recover spontaneously after the appearance of the chancre, only to redevelop at the end of several years in the form of late manifestations, has been insisted upon. The number of these cases will lessen if the blue glass is carefully employed in studying the surface of the body during the early periods of the disease. Slight variations of color are discovered, which later disappear, indicating that a dermatosis was present. The interest of this procedure is still more striking when it is applied to the study of effaced eruptions. After a variable duration of weeks or months, an exanthem disappears, but we know that the vascular system does not immediately recover its integrity of function. The tunics of the arterioles are surrounded still by a neoplastic infiltration, which permits of a reappearance of the eruption upon such slight provocations as a warm bath or exposure to cold air. There persist then, alterations which our eye alone cannot cognize. The blue glass here comes to our aid. By this means, effaced syphilides are frequently discoverable at the end of six months, and the author has even discovered them at the end of a year or more. Slight cicatrices are equally rendered visible. From the point of view of posthumous diagnoses and medico-legal examinations, this procedure will also not be

without its value. (Jullien employs a pair of spectacles or eye-glasses with cobalt-blue lenses.)

Etiology of Alopecia Prematura. Blaine (*Jour. Amer. Med. Asso.*, Mar. 11, 1899) discusses the causation of idiopathic premature alopecia. He looks upon heredity, hat pressure and other frequently-ascribed causes as improbable, and claims that the true cause is the too frequent use of the razor upon the face. The bald head can only be found among enlightened nations, and must, therefore, be caused by following the arts and customs of civilization. The use of the razor stimulates the growth of the beard to its utmost limit, whereas, unmolested, the beard grows but slowly. The constant beard growth produces a weakness in the scalp growth. The act of shaving also acts as a counter-irritation, causing a hyperemia of the face and detracting from the nourishment of the scalp. Every man should allow his beard to grow between the ages of 25 and 35, when premature alopecia is prone to develop. The author calls attention to the non-occurrence of idiopathic premature baldness in women, and in the beardless Indian tribes, in whom bald heads are unknown. The inhabitants of the island of Formosa have luxurious beards and hair, but the former are not cut or shaved. In conclusion, the author makes the statement that, "were there no shaving, there would be little or no baldness." He has not observed a single case in which cessation of shaving has not been followed by an arrest of the retrograde process.

Erythema Multiforme with Chief Incidence on the Buccal Mucous Membrane. Colcott Fox (*Brit. Jour. of Dermatol.*, Jan., 1899) exhibited, at the Dermatological Society of London, a case of erythema multiforme that had been shown at the October meeting, with a previous attack. The lips and pouches of the mouth were studded with vesicles, but the outbreak was less severe than before, and the palate was now free. The tongue had been much swollen, and was covered with mucus and debris, but did not present vesiculation. Just below the left knee was a large, rounded erythemato-bullous lesion, the size of a half-penny. The lesion was raised, circumscribed, of a lively red color, and its centre was occupied by a flaccid blister. On the opposite leg, but rather lower in site, was a similar lesion. Around the insteps were grouped a few smaller erythemato-bullous lesions. Similar smaller lesions were seen about the wrists. The exhibitor thought the nature of the case was now pretty clear, but the cause was very obscure.

The Treatment of Keloids by Scarification. Le Dentu (*Annales de Dermatol. et Syphilog.*, Jan., 1899) reports three cases of keloid cured by scarification. In the first case, three sittings at intervals of ten days sufficed to effect a disappearance of the growth. The second patient presented a keloid on the ear. The growth was ablated several times, each time recurring. Finally, the part was scarified seven or eight times, at intervals of several weeks. No recurrence. The third patient presented a keloidal acne at the back of the neck. Numerous cauterizations and curetting were without avail, all being followed by recurrence. After three scarifications, a complete cure resulted. No recurrence one year later.

PEDIATRICS.

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Contribution to the Etiology of Whooping Cough. Behla (*Deuts. Med. Wochensch.,* 1898, Vol. XXIV., No. 299) describes the infectious principle of whooping-cough, which he declares to be a virus which clings to the expectoration, and is a protozoon with the behavior of an ameba, increasing by division, and occurring in the form of spores, and not a bacillus, as described by Koplik, Czaplewski and Hansel. The usual situation of the parasite is the tracheal mucous membrane. During the catarrhal state it occurs in less frequency; but this changes in character as the period of the cough increases; and during the convulsive stage, a large number of round, ovoid, shining bodies are seen, lessening as the cough subsides. He refers to the work of Deichler and Kurloff.

Contribution to the Symptomatology and Diagnosis of Cholelithiasis in Infancy and Childhood. Wendel (*N. Y. Med. Rec.,* 1898) contributes to the study of calculi of the gall bladder, and calls attention to the fact that the custom of using an abdominal binder upon new-born infants, hindering the descent of the diaphragm, would seem a most effective method of inducing biliary stasis and favoring the invasion into the biliary passages of pathogenic micro-organisms. The extreme activity of the digestive and respiratory system enables infants to escape cholelithiasis, as a rule; nevertheless, the disorder is more frequent than has been generally taught. The paper is based upon the careful observation of 16 children under eight years of age; the diagnosis being corroborated either by detecting the calculi in the intestinal evacuation, or on the operating table, or, in two instances, by autopsy. Pain is so frequent a symptom of intestinal disorders in children, and so little attention is given to the inspection of alvine and urinary discharges, that cholelithiasis is often overlooked. He urges that the surgeon should recognize the importance of an obstructed cystic duct, common duct, or ulcerated gall bladder, as certainly as of a diseased appendix. He divides the symptomatology as follows: 1. Cholelithiasis with intermittent obstruction of the bile passages (typical gall-stone colic). 2. Cholelithiasis with hydrops cystis fellae. 3. Cholelithiasis with cholecystitis, but without active symptoms of obstruction (empyema cystis fellae). 4. Cholelithiasis with perforation of the gall bladder and extravasation into the peritoneal cavity, with peritonitis. 5. Cholelithiasis with lodgment of calculi in the common duct. The diagnosis is carefully reviewed. As to the method of palpation, he gives the very practical suggestion that it is best done in young infants in a warm bath, during which time the subject is

accustomed to submit to manipulation without revolt, and is properly relaxed. Vomiting is a pretty constant symptom, persistent and very exhausting; he has never observed stercoral vomiting in children during gall-stone colic. Convulsions are frequently observed, and he asserts that in young children vomiting attended by convulsion and without fever must always be considered significant of some form of colic. Jaundice, he regards as rare, or slight. Gmellin's test is sometimes negative, but in all doubtful cases the urine should be evaporated to one-tenth before testing.

Appendicitis in Children. McGuire (Paper before Med. Soc. of Va., Sept. 1, 1898) reports nine cases of appendicitis in children, surgically treated, occurring in children from four to eleven years of age, with two deaths. The deaths occurred in cases markedly septic and practically moribund. He remarks that many cases ending in resolution are overlooked previous to the last five years; the symptoms being those of acute intestinal indigestion. The physician who looks and waits for typical symptoms of appendicitis will frequently err in diagnosis. The intensity of an individual symptom, which is easily misleading, is more marked in children than in adults. Pain is an especially misleading and variable phenomenon, which does not indicate the pathologic condition, maybe intense, as in a case of slight catarrhal appendicitis, and absent in the gangrenous form. Tenderness may be altogether absent, especially where there is gangrene, because the tissues, nerves and all, are practically dead; and it may vary most widely as to situation. Nausea is usually a more prominent symptom in childhood than in the adult; is not continuous, and, where it occurs in an acute form later in the disease, often marks the advent of perforation and the onset of sepsis. Fever is usually present, and is liable to be higher in the slight catarrhal forms, and to be absent, or subnormality may exist, in the more serious form. He lays great stress upon the facial expression, especially as indicating septic peritonitis. A potent fact in dealing with children is that an acute peritonitis very rarely occurs in them from any other cause than appendicitis. The same holds good in the adult male. McGuire claims that no case should be abandoned by the surgeon, because, though the case may die and impair his statistics, neverthless, some hope always exists of recovery, and every possible chance should be furnished. The surgeon who operates on a case of extreme gravity, and saves the patient, deserves far more credit than the operator who saves nineteen out of twenty simple cases.

Lupus and the X-Rays. At the *Gesellschaft der Aerzte*, Schiff showed a patient to the members whom he had treated with the X-rays for Lupus erythematodes. The patient came to him with the entire left side of the face affected, while only one small isolated patch was to be observed on the right side. The rays were applied to the left side of the face for two months, with the result that all the infiltration has quite disappeared, leaving only a slight pigmentation over the site of the lupoid surface. It appears that the chemical action of the rays is responsible for this favorable result.—(*Med. Press.*)

THERAPEUTICS.

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Local Application of Guaiacol. Popow (*Russki Med. Vestnik.*, Feb., 1899) reports a number of observations of the action of guaiacol, applied locally. In 40 cases of typhoid fever, an average of 7 to 10 drops of guaiacol, either pure or mixed with equal parts of oil, were rubbed in on the shoulder. This was invariably followed within an hour by a fall of temperature lasting from two to three hours, accompanied by excessive perspiration, which weakened the patient to a very great extent. The pulse also became rapid and weak. In a few cases, where larger doses were used, the perspiration was followed by quite severe chills. In children, even very small doses had the same bad effect. In severe cases the temperature could not be lowered by guaiacol, although perspiration and chills were produced by even small doses. The same unfavorable results followed the use of guaiacol in relapses. In cases of typhoid fever complicated by catarrhal and croupous pneumonia, the application of guaiacol was found to exert an evil influence on the course of the disease. [In two cases, at least, it might have been partly responsible for the death of the patient.—ED.] In croupous pneumonia the same pernicious effect was noticed. In erysipelas the application was made in 23 cases. Here the results proved to be very beneficial. The large doses found necessary by the author were very well tolerated by the patients, excessive perspiration and chills being absent. The duration of the disease was limited to four or five days. In chronic pulmonary tuberculosis, the effect was prejudicial. In acute rheumatism, the only effect noticed was an amelioration of the pain. The author concludes with the following statements: 1. Guaiacol, applied locally in fevers, is a powerful antipyretic. 2. In typhoid fever, croupous pneumonia and pulmonary tuberculosis, the lowering of the temperature is followed by perspiration and chills, which weaken the patient and reduce the heart's action. Besides, it does not shorten the duration of the disease. 3. In erysipelas, the application of guaiacol had a favorable influence on the course of the disease. 4. In acute rheumatism, it is a good local analgesic.

A. R.

Investigation of Glycerino-Phosphate of Soda in Diseases of the Nervous System. Kahane (*Klin. Therap. Wochensch.*, Vol. V., No. 51) believes that this drug, theoretically, answers all a nerve restorant should, being a direct factor in the making up of lecithin, which, chemically, is neurin distearyl-glycerin phosphate, and meets the requirements better than drugs commonly used in neurotic cases, such as bromides,

valerian, etc., that only relieve for the time, but do nothing toward the restoration of the system. The best mode of administration is in combination with soda, potassa, lime, magnesia, etc., the dose being from about 2 to 10 grs., three times a day. The salts of the alkalies are soluble in water, making it easy to combine with other remedies.

The Treatment of Exophthalmic Goiter with Sulphate of Quinin. Paulesco (*Jour. de Méd. Interne.,* Dec. 15, 1898) agrees with Reynier, that exophthalmic goiter is not, properly speaking, a disease of the thyroid gland, as it is a disease of the blood-vessel system, a vasodilatation, causing cerebral congestion, with an increased activity of the thyroid gland, and other reflex symptoms. In the treatment of this trouble, a vaso-constrictor is called for, and one meeting the requirements better than all others is sulphate of quinin. He reports 3 cases, 1 in detail; all were greatly benefited by the treatment.

A New Urinary Disinfectant. Wilcox (*Med. News,* Vol. LXXIII., No. 20) has used urotropin (*ουροντύ* and *ρεπω*) and believes it comes nearer the requirements of a urinary antiseptic than any drug known at present. Its formula is $(C^2\ H)_6\ N^4$, and chemically is hexamethylentetramin. One of the best recommendations of this drug is that it renders alkaline urine acid, a property that few possess, and those that do are usually very poorly tolerated by the stomach, *i. e.,* copaiba, cubeb, benzoates, salicylates, etc., and these drugs are rarely used alone, as they require urinary sedatives to be administered with them, as belladonna or hyoscyamus, while urotropin acts better when administered alone, and is not subjecting the urinary tract to any unnecessary irritation. Case 1 was a man of sixty years, having aortic and mitral disease, had suffered from ascites some months previous, and now complained of frequent and painful urination, etc. Urine alkaline, contained albumin, casts, hyaline and granular, blood, few altered cells, considerable pus, and phosphates; he was given a long list of remedies without relief; finally, 7½ grs. of urotropin, t.i.d., were ordered, causing marked improvement, reducing the pus, and giving the urine an acid reaction. Case 2, a man, 31 years, dyspepsia; urine always contained a white turbidity (phosphates), which he thought was semen; 10 grs. after each meal caused it soon to regain its normal appearance. Case 3 was one of urethritis in which it gave good results, in 7½-gr. doses, t.i.d., in conjunction with hydrogen dioxid and lime water, also a 1% silver citrate solution, locally. Case 4, a young woman, 24 years, with bladder and kidney trouble after labor. Urotropin gave good results. He concludes (1) that urotropin will produce no untoward symptoms, when not given more than 30 grs. per day. (2) It renders urine acid. (3) It inhibits bacterial growth. (4) A good urinary disinfectant.

Abortion by Means of Nitrate of Silver. Perlsee found a small stick of nitrate of silver, introduced into the os, a never-failing abortifacient. No bad results, as a rule, follow.

PATHOLOGY AND BACTERIOLOGY.

UNDER THE CHARGE OF

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Studies in Serum Diagnosis. Cabot and Lowell (*Bost. Med. and Surg. Jour.*, Feb. 9, 1899) report the results of 376 Widal tests, at the Massachusetts General Hospital. Of 204 cases without history of typhoid, none reacted with a 1 to 10 dilution and a 15-minute time limit. Of 39 cases known to have typhoid, 13 gave Widal's reaction at varying periods after recovery. *Remarks on technic.*—The writers state that the experiments were carried on "without further laboratory facilities than form part of the furniture of a physician's office." A single drop of blood is mixed with 5 drops of water, using the same dropper. A drop of this mixture, added to a drop of bouillon culture, gave a 1 to 10 dilution. The authors conclude with the following summary: "(1) The Widal test can easily be carried out in out-patient work. (2) 204 cases of disease other than typhoid tested; all with negative results. (3) 39 cases of sure typhoid tested at periods of from 1 to 18 months after defervescence; 13 of these reacted positively, 1 at a dilution of 1 to 100. (4) 9 cases tested quantitatively; 1 case reacted at 1 to 1,000 for several weeks. No data of prognostic value obtained.

The Etiology and the Classification of Peritonitis. Flexner (*Phila. Med. Jour.*, Vol. II., No. 20, 1898) reviews classifications previously given, and analyzes in detail the post-mortem records of 106 cases of peritonitis. He regards the bacteriologic findings, post-mortem, as fairly reliable data upon which to base conclusions, and believes that the possibility of agonal infections need not militate against the value of post-mortem bacteriologic determinations. Of the cases observed, practically all were bacterial in origin, and the author evidently views chemical peritonitis as a "possible possibility." Various forms of peritonitis are first divided into (A) Primary, (B) Secondary. By the former "is understood a condition in which an inflammation, usually diffuse, of the serous cavity takes place without the mediation of its contained organs, and independently of any surgical operation upon these parts." The bacteria present may be brought to the peritoneum by the lymph or blood. It is possible that they may wander through the intact intestine, although the author views this possibility with suspicion. Peritonitis due to "phlegmonous inflammation of the abdominal walls, and perhaps certain acute pleurisies, are not included in this definition." Of the author's cases, 12 belong to this group. Of the 12, in 2 cases no bacteria could be demonstrated; in 4 cases, the streptococcus pyogenes alone; in 1 case the streptococcus pyogenes and the bacilli coli

com.; in 2 cases, staphylococcus aureus and albus; in 1 case each, micrococcus lanceolatus, bacillus proteus, bacillus pyocyaneus, and an unidentified bacillus.[1] (B) The secondary peritonitides are subdivided into the (1) exogenous and (2) endogenous. The former embrace the cases in which the bacteria "have, in large part, entered from without," examples of wound infection. Thirty-four of the reported cases belong to this group. Of the 34 cases, 25 are single infections and 9 multiple.

TABLE OF MICRO-ORGANISMS FOUND IN CASES OF EXOGENOUS PERITONITIS.

	Total No. Cases.	Alone.	Combined.
Staphylococcus aureus	15	12	3
" albus	3	2	1
Streptococcus pyogenes	10	5	5
Bacillus coli communis	7	2	5
Micrococcus lanceolatus	3	1	2
Bacillus proteus	1	0	1
Bacillus pyocyaneus	2	0	2
Unidentified organisms	3	0	0

Table of Combinations.	No. Cases.
Staphylococcus aureus and streptococcus.	1
" albus " "	1
" " and B. proteus	1
" " and B. coli com	1
Streptococcus and B. coli com	1
" B. pyocyaneus and B. coli com. and B. pyocyaneus	1
Micrococcus lanceolatus and B. coli	1
" " and liquefying bacillus	1

(2) *Endogenous peritonitis.* This is the commonest form of peritonitis. The bacteria present come wholly or in part from the intestinal tract. Of the author's cases, 60 belong to this class. One case is excluded. Of the other cases, 21 were single infections and 37 multiple.

TABLE OF BACTERIA FOUND IN CASES OF ENDOGENOUS PERITONITIS.

Bacteria.	No. of Cases.	Alone.	Combined.
B. coli com	47	9	38
Streptococcus pyogenes	39	7	32
Staphylococcus albus	4	2	2
" aureus	3	1	2
Micrococcus lanceolatus	4	1	3
Bacillus proteus	4	2	2
" aerogenes caps	8	2	6
" pyocyaneus	3	0	3
" typhosus	3	0	3
Unidentified	3	0	3

Table of Combinations.	No. Times.
Streptococcus and B. coli com	16
" B. aërog. caps. and B. coli	2
" and B. aërog. caps	1
" and staphylococcus aureus	1
" and B. typhosus	2
" S. aureus, B. typhi, proteus and coli	1
" and B. proteus	1
" and unidentified organism	1
Bacillus coli and M. lanceolatus	3
" " and B. pyocyaneus	3
" " and B. aërog. caps	2
" " S. aureus, and B. aërog. caps.	1
Staphylococcus albus and orange sarcina	1
" " and unidentified organism	1

Mushroom Juice as an Antitoxin against Serpent Venom. M. Phisalix, as a result of various experiments, found that all kinds of mushrooms possess a substance which acts as an antitoxin against serpent venom. If the juice of the ordinary hot-bed mushroom is extracted by pressure or by maceration in water and inoculated into a guinea-pig, the animal is rendered absolutely refractory to serpent venom. The inoculation, however, seems to possess toxic properties which vary in degree, according to the size of the dose. In the rabbit, for instance, the injection of 25 c.cm. of mushroom juice is fatal, the animal dying from intervascular coagulation. To avoid these results, M. Phisalix tried filtering and boiling the juice, but, all the same, the toxic properties remained, although they were much diminished.

[1] There is evidently some error, as this accounts for 13 cases.

CLIMATOLOGY AND HYGIENE.

UNDER THE CHARGE OF
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Influence of the Milk Supply on the Spread of Tuberculosis. Kanthack and Sladen (*Lancet,* Jan. 14, 1899) contribute a valuable summary of their investigation of 16 milk supplies in Cambridge, Eng. The authors took careful means to receive the milk in sterilized containers. They centrifugalized the specimens and inoculated guinea-pigs with the sediment and also with the creamy layer. Of 90 guinea-pigs inoculated, 23 died from tuberculosis (25.55%). Of these 23 guinea-pigs, 13 were inoculated with the creamy layer and 10 with the sediment. Of the 16 dairies examined, the milk of 9 caused tuberculosis. It was thus evident that more than half of the 16 dairies examined at that time, supplying 10 of the colleges in Cambridge, sent out milk containing tubercle bacilli in sufficient quantities to cause tuberculosis in guinea-pigs when the animals have been subjected to inoculation. Tables are appended giving in detail the methods of inoculation and the macroscopic and microscopic appearances. All the results were personally noted by Prof. Kanthack, whose death in the prime of life has called forth sympathy from every quarter of the globe.

Contagiousness of Tuberculosis. Just how dangerous intercourse with tuberculous persons may be, especially for children, is demonstrated by the following case, reported in the *Revue d'Hygiene:* In a public school in Blancaford, Spain, a consumptive teacher was appointed. His condition preventing him from obtaining lodgings elsewhere, he arranged a room adjoining the class-room for that purpose. It was in this room that the good-natured and very popular teacher was in the habit of assembling his favorite scholars after school. After a year's service, he died. Three months later, one of the favorites also died of acute tuberculosis, to be followed in five months by his brother. Both were children of healthy peasants, and had, before the arrival of the phthisical teacher, been robust and well. In about the same period of time, two other healthy scholars, who were accustomed to attend these "afternoons" of their teacher, died: one of them of tubercular meningitis.

Hygiene of Cycling. W. G. George, the famous runner and athlete, who established the mile record of 4 minutes 12¾ seconds, has recently expressed himself in English papers as to cycling, as follows: "My opinion is that no healthy and properly-trained man can completely collapse in a cycle race, because the whole of his muscular and physical system is not at work in unison, as is the case in running, walking, swimming, etc.; indeed,

I am almost inclined to think a good man could keep going for years on his cycle if he could but master sleep, and be putting up records at intervals, both for long and short distances, all along the line. With regard to which branch of exercise is most useful and healthy, and which the most harmful, I hold that cycling on the road for pleasure, if the rider is properly clothed and the pastime is not indulged in to excess, is a grand and most beneficial sport for man and woman; whilst cycle racing on the road or path is bad, and cannot be a healthy pastime, because the position of the body during racing is contracted and unnatural, and some of the organs must, in consequence, suffer. Then, again, some part of the muscular and physical system is practically doing nothing, and it is in this way that the great danger lies. The old-fashioned, severe methods used by our English trainers have ruined many a good man's health, and this applies itself to rowing more than any other sport. In conclusion, let me say that I have never seen a trained, healthy man reap any permanent harm from collapse, and I think it almost impossible for him to do so. Collapse simply means nature asserting itself. A few men may have the pluck to try and kill themselves by overexertion, but when they try to do so, nature steps in and puts a stop to the business before the climax is reached. On the other hand, an untrained or unhealthy man, if he enters into any kind of violent work or contest, risks his life, or, at any rate, lays the seeds for no end of trouble."

SURGERY.

UNDER THE CHARGE OF

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Rupture of an Appendiceal Abscess During an Examination. Immediate Laparotomy; Recovery. Cathelin and Lévesque (*L'Echo Méd. du Nord,* No. 90, 1898) report a very interesting case in which an appendiceal abscess was ruptured during palpation in a weak child eight and one-half years of age. They point out the danger which is present in palpating, if by any chance the adhesions are slight or have but just formed. General peritonitis set in at once, and during the hour required to prepare for the operation, the symptoms became very marked. The operation was, however, successful. The ruptured appendix was found and removed, and the abdominal cavity thoroughly washed out with a large amount of sterile solution. The patient made a complete recovery. They agree with the consensus of best opinion in holding that the removal of the appendix, at any cost, is not always, or, in fact, ever, demanded, and that circumstances and the condition of the individual patient should be the guide. They attribute the success of the intervention in this case to the immediate operation, and

believe that little time should intervene between the onset of the symptoms and the operation wherever it is evident that the abscess has ruptured. Plentiful lavage is another point that cannot be too deeply impressed.

Subcutaneous Nailing in Fractures with Unusual Tendency to Displacement. Roberts (*Penn. Med. Jour.*, Dec., 1898) believes that it is proper for a surgeon with proper qualifications and a sufficient knowledge of regional anatomy to deliberately nail together the fragments by an aseptic wire nail, driven through the unbroken skin. He does not advocate this method for the treatment of all fractures, but only in those cases where the obliquity of the fragments, or some peculiarity of the fracture, makes it imperative to use some device other than splints to control the fragments. Splints should, of course, be used in addition. No one should attempt the operation who has not sufficient aseptic technic to make him able to perform abdominal operations with aseptic results. The author believes that this method will be found valuable in certain dislocations, such as dislocations of the clavicle from the sternum or from the scapula.

A Case of Scissors Legs. Cooke (*Brit. Med. Jour.*, Dec. 3, 1898) reports a rare case in which adduction of the left limb was so great that the patient was unable to stand in any other way than with the legs crossed, and could but barely separate them when in the supine position. The power of flexion and extension was, however, perfect. The gait was rolling, one limb being swung with difficulty around its fellow.

The Treatment of Erysipelas. Fisher (*St. Peters. Med. Woch.*, No. 38, 1898) makes a careful study of the various methods lately employed in the treatment of cutaneous erysipelas. As the result, he gives the following conclusions regarding the treatment by alcohol, which he has employed with unvarying success for the past five years in all cases where the local conditions permitted its employment: After the part had been carefully bandaged with two layers of loose bandage, 85% to 95% alcohol was poured on, till the bandage was well soaked, and the patient was instructed to keep them moist with more alcohol. The employment of from one to three quarts of alcohol generally sufficed to produce the cure. The course of the disease was checked; suppurative processes, though not always checked, were rendered more amenable to operative treatment, and healed rapidly. In the 25 cases treated, there was no gangrene present, and no deaths occurred. The success obtained by various other authors fully justifies the author in his belief in the method. Its adaptation to the treatment of phlegmonous and other severe inflammatory processes shows that it has a wider field than the one he points out.

The Treatment of Congenital Talipes. Garrison (*Jour. Amer. Med. Asso.*, 1898) shows the importance of examining infants immediately after birth for any lack of balance in muscular development. The three cases he reports show how valuable the results of early treatment in these cases may be, and teach us that early, well-directed treatment by massage,

employed by the mother, will produce all that can be desired in the treatment of many of these cases, even in the hands of a general practitioner in the country.

A Case of Partial Removal of the Stomach. Lambert (*L'Echo Méd. du Nord,* No. 92, 1898) reports a case of removal of the stomach for cancerous disease. The pyloric orifice was found to be nearly closed, but there was no glandular involvement. Although the patient was cachectic and in a weakened condition, it was determined to remove it, or, at least, the greater part. The patient did not recover from the shock of the operation, and died the same day.

Localization and Removal of a Bullet from the Brain. Burkhardt (*Wüttenb. Corresp.-Blatt.,* Nos. 35 and 36, 1898) reports an interesting case in which a revolver bullet was located in the brain by means of skiagraphs taken in the antero-posterior and lateral directions. The operation showed the localization to be absolutely correct. The bullet was removed and the patient made a perfect recovery, with absolute restoration of function.

The Application of the Roentgen Ray in the Diagnosis and Treatment of Coxalgia. Josseraud (*Lyon Méd.,* No. 46, 1898) has fully demonstrated the value of this method of diagnosis in the determination of the exact condition present in cases of coxalgia, and the beneficial influence which it has had upon the treatment in these cases. He has shown that the skiagraph will demonstrate the presence of osseous lesions and detect sequestra, making it possible to determine the exact condition of the bone and the situation of the lesion, so that if it is simply cartilaginous, or in the incipient stage, it can be treated by extension and rest, while the presence of any grave osseous lesion makes it possible to operate and remove the sequestrum or diseased area of bone before symptoms are present that would indicate it under other circumstances.

Treatment of Elephantiasis with Calomel. Professor Pospelow employs hypodermic injections of calomel in liquid vaselin in this affection. In a boy, 8 years old, suffering from elephantiasis of the right leg, presented before the Moscow Society of Dermatology and Venereal Diseases, six injections of calomel (0.05:1) softened up the leg, allowing more freedom of motion. The size was reduced 6 cm.

Symptoms of Poisoning by Boracic Acid. S. Grumpelt communicates to the *British Medical Journal* a note on a case where 3 to 4 irrigations of the bowels by boracic acid solution (a tablespoonful to a pint) were followed by headache, slight nausea, and intense dryness of the skin. On discontinuing the injections the symptoms ceased, to commence again with their resumption.

LARYNGOLOGY AND RHINOLOGY.

UNDER THE CHARGE OF

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Latent Encysted Lacunar Tonsillitis (De l'Amygdalite Lacunaire Latente, Enkystie). De La Combe *(Rev. Hebdom. de Laryngol.,* etc., No. 50, 19th year*)* defines this affection as "a catarrh of the lacunar cavities of the tonsil in which accumulate the various products of desquamation and secretion. These become encysted and tend to ulcerate if let alone." It is rare in childhood, frequently seen from the fifteenth to the thirtieth year, but is not often found after forty years of age, due undoubtedly to the fibrous change the tonsil undergoes. It usually occurs in the spring and autumn. The condition exhibits three stages—of catarrh, of encystment, and of ulceration. It begins insidiously, especially seen in "chilly" persons subject to sore throats or tonsillitis. It is differentiated from abscess by the absence of systemic involvement, freedom from pain, the character of the cyst wall and its contents, which are not purulent. Treatment consists in laying open the cavity, with biting forceps, applying a solution of iodophenique, and ordering an antiseptic gargle. Or an opening may be made with the galvano-cautery, the cavity mopped out with chlorid of zinc, 1-20, and a gargle of "borax-bromuri" used frequently. If ulceration has taken place, the area involved should be curetted and removed with cutting forceps and an antiseptic solution applied. Gargles should be used as before.

[A gargle that will be found useful in such cases for its healing and antiseptic effect as well as for the relief it affords to the soreness following operation is

℞ Cocain, ... gr. viij.
Fld. hydrastis (colorless), ... fl.℥iv.
Hydrogen peroxid, ... fl.℥iss.
Ext. hamamelis (colorless),
Aquæ cinnamomi, ... aa fl.℥ij.
M.—Sig.—Two teaspoonfuls as a gargle every two hours.—Ed.]

Contraction of the Nasal Orifice and Collapse of the Alae. Guye *(Munich. Med. Wochens.,* No 26, 1898), explains the collapse of the alæ of the nose by the diminution of the tension of the alæ on the one hand, and on the other by the irregularities of the septum in the region of the plica vestibuli. The diminution of the tension of the alæ is determined by the softening of the cartilage, perhaps due to the weakness of the muscles during sleep or in facial paralysis. Feldbauch proposed a simple instrument for preventing this collapse of the alæ, especially during sleep. The author uses instead two small rubber tubes 6 or 8 mm. long and 2 to 6 mm.

wide, introduced into the nostrils and held in position with a thread. Study of comparative anatomy has shown the author that the plica vestibuli is vertical in man only. In the monkey its direction is horizontal, so that in these animals collapse of the alæ does not produce occlusion of the nostril, but a division of the vestibule into a superior and inferior portion. (Abstracted by Jankelevitch in *Rev. Hebdom. de Laryngol.,* etc., No. 50, 19th year.)

[I have used for a number of years tubes of silver adapted to each case for this purpose with satisfactory results.—ED.]

OPHTHALMOLOGY.

UNDER THE CHARGE OF

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The Causes of Ophthalmoplegia. Kollock (*North Carolina Med. Jour.,* Feb. 5, 1899) reports a case of this nature in which there was a difference of opinion as to the etiology, different consultants referring it to syphilis and tuberculosis, respectively. In commenting on the case, Kollock makes some very interesting remarks. He says that nuclear paralysis does not necessarily involve every muscle supplied by the third nerve, while a growth pressing upon the trunk may do so, causing total paralysis. When the trunk of the fifth is involved, not only are the motor and sensory fibres affected, but neuro-paralytic ophthalmia frequently follows, on account of the damage to the Gasserian ganglion. The eye generally escapes when the tumor is in the pons. Gowers mentions that semi-convulsive paroxysms of coughing sometimes occur in diseases of the pons, which fact may account for the choking, or "gagging spells," from which Kollock's patient at one time suffered, but from which he has been free for more than two years. Tubercular growths may occur at any age up to 70, but are more common in early life, three-fourths occurring before the age of 20, and one-half of all cases before 10 years (Gowers). In adults, signs of phthisis are rarely absent when tubercular growths are present in the brain. Syphilitic growths are probably more frequent than reported, as they are generally amenable to treatment, but of non-syphilitic growths, tubercular and sarcomatous constitute four-fifths of the intra-cranial growths. Tubercular growths are found most often in the cerebellum, and next in the pons, while syphilomata occur generally in the cerebrum or pons, and rarely in the cerebellum and corpus striatum. Syphilitic growths occur usually in the cranium, between the fifth and twelfth years after infection, though they may appear sooner. In Kollock's case there was a strong family history of tuberculosis, but many important diagnostic symptoms were absent, as there were no signs of this disease in any portion of the body. His health has improved, he has gained flesh, eats and sleeps well, and has never been obliged to give up his work, but, on the contrary, has been subjected to increased mental and physical strain by the political campaigns in which he

has taken part, and his duties as a member of the State Legislature. A tumor that grows rapidly and then becomes stationary is likely to be tubercular, while a very gradual development is not likely to be due to syphilis (Gowers). In Kollock's case, the apparently slow development of symptoms does not necessarily exclude syphilis, as the patient was put on specific treatment by Drs. Knapp and Koller, in New York, in 1891 or 1892, which may have possibly delayed the progress of the disease.

Successful Operation for Extreme Myopia. Carter (*Lancet,* Jan. 14, 1899) reports a remarkable success in an operation of this nature. The patient was a young lady who had been under his observation for 18 years, during which time she had progressively-increasing myopia. At the time of operation her refraction was: Right: —S. 18.0 —C. 6.0 ax. 180; left: —S. 12.5 —C. 6.0 ax. 180. Her correction gave her about $^{8}/_{20}$ vision, but she was almost blind without glasses. Both lenses were needled and extracted, and an attempt was made to correct the high degree of astigmatism by large incisions in the sclero-corneal margin, perpendicular to the vertical meridian. The result was astonishing; the patient was able to bicycle without glasses. Her unaided distant vision was better than it had ever been with glasses, and with her slight correction (Right: +S. 1.50, +C. 0.5 ax. 90; left: +C. 1.5 ax. 90) she had perfectly normal sight for the first time in her life. The eye-balls were deep-set, quite like hyperopic eye-balls, and there was no extensive crescent. These facts, together with the enormous change made in the refraction, gives great weight to Carter's conjecture that the myopia was likely in a great measure lenticular, due to a high index of refraction. If Carter had carefully studied the corneae, as should be done in all such cases, this question could be definitely settled. There is no doubt that this type of myopic case is the ideal one for operation. There is little use in operating for cases in which there is extensive posterior staphyloma or choroidal disease. What little optical gain is to be expected is offset by the dangers of retinal detachment, hemorrhage, prolapse of fluid vitreous, etc.

The Estimation of the Size of Retinal Images. Sullivan (*Med. Review,* 1898) in a paper on the optical functions of the lens, recalls the following rules for the estimation of the size of retinal images, the distance of projection, and the size of the object producing a certain image: 1. To find the size of retinal images when the height and distance of object are given, as, What is the size of a scotoma that produces a blind spot in the field of vision measuring 30 mm. at 300 mm. distance? Multiply the height of object by the nodal distance and divide by the distance $\frac{30\times 15}{300} = 1.5$ mm., the size of scotoma. 2. To find the height of the object when the retinal image and distance are given, as, What should be the diameter of a blind spot produced by a scotoma 1.5 mm., situated 300 mm. distance? Multiply the distance by the retinal image and divide by the nodal distance $\frac{300\times 1.5}{15} = 30$, diameter of blind spot. 3. To find the distance at which the object must be placed in order to produce a retinal image of a given size, at what distance should an object 30 mm. in height be placed in order to produce a retinal image 15 mm.? Multiply the height of the object by the nodal distance and divide by the size required $\frac{30\times 15}{15} = 300$ mm.

GENITO-URINARY SURGERY AND VENEREAL DISEASES.

UNDER THE CHARGE OF

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Syphilis Treated by Intravenous Injection of Cyanid of Mercury. Chopping (*Lancet,* Feb. 13, 1899) reports 84 cases of syphilis treated by the intravenous injection of a 1% solution of cyanid of mercury. The mercury was administered in the primary and secondary forms of the disease, about 20 minims daily, the length of the treatment in the various cases lasting from 4 or 5 days to 2 months. Very good results were obtained. It is for the following reasons that the author claims special advantages for the method: As the injection is made daily, the patient is under constant observation; the exact quantity of mercury injected is known; not so where inunctions or pills are used; as the drug is administered by intravenous injection, the patient is more rapidly brought under its influence than when administered by mouth or skin—a marked advantage where it is necessary to produce the full effect of the drug as speedily as possible, in such cases as those with iritis, otorrhea, ulcerated laryngitis, etc.; the rapidity with which the serious lesions and visible evidences of the disease clear up; and the usefulness of the treatment in cases which do not respond to the ordinary methods of treatment.

Treatment of Urethral Discharges. Parrot (*Charlotte Med. Jour.,* Feb., 1899) reports the best results with the Valentine method of treatment in gonorrhea. He irrigates, on the first day, with a 1-3,000 potassium permanganate solution, and the same until the fourth day, when, in conjunction with the anterior injection, he gives an intravesical irrigation. The day following, only the penile urethra is treated; after that, all irrigations are intravesical. He varies the strength of his solution from 1-3,000 to 1-6,000, according to the case and symptoms. Internally, salol, grs. v., is given 3 or 4 times a day. If there is much ardor urinæ, a solution containing benzoate of soda and citrate of potash is given. Dr. Parrot reports several cases cured in from 10 to 16 days. In cases to which the irrigation treatment cannot be given, he prescribes a solution of protargol, ½% to 3%.

The Anti-vaccination Movement. An international congress of the German Anti-vaccination Society will take place in Berlin on the 18th, 19th and 20th of June. Dr. William Tebb has promised to be present.

GYNECOLOGY.

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Post-Operative Insanity. Rohe (*Amer. Jour. of Obstet.,* March, 1899) says that the delirium traumaticum was known to surgeons before the time of Ambrose Pare. It, like milk fever, was simply a manifestation of septic infection. Billroth was the first to indicate that this nervous delirium might persist in the form of a true psychosis. Other operators reported cases, the majority of which were in women and following operations upon the reproductive organs. Many of these cases have not been published with a sufficient degree of fulness to determine whether they were insane or not. In all the cases of mental disturbance reported as post-operative, it is found that there is little difference between the two sexes in number affected. Graver forms, however, in the majority of cases, follow operations on the abdominal and pelvic organs in women. A comparatively large proportion follow plastic operations upon the uterine or vaginal outlet. Most writers express the opinion that the removal of the ovaries, or these organs with the uterus in women, and of the testicles in men, has a mysterious influence upon the psychic character; that the sense of loss of virility or muliebrity produces such profound mental depression as to cause melancholia. Aside from the fact that melancholia is the least frequent form of mental disturbance following operations, it may be asked why the removal of double cataract or a molar tooth should produce similar effects? In the writer's opinion, excluding cases of hereditary or acquired psychopathic predisposition, the mere removal of the ovaries or uterus would have no greater psychic effect than the amputation of an arm or leg. [This abstract is from the last paper written by Dr. Rohe, and it seems like a voice from the grave of one who, in his life, had ample opportunity for thorough study and observation of the class of cases herein described.—Ed.]

The Physical and Moral Effects of Absence of the Internal Female Sexual Organs. Munde (*Amer. Jour. of Obstet.,* March, 1899) says that a true hermaphrodite possessing the distinctive organs of either sex, and therefore capable of performing the procreative functions of both male and female has, so far as his knowledge is concerned, never been demonstrated. The instances of normal female build, with apparent complete absence of uterus, ovaries and tubes, and normal vulva and vagina, are far less common than those presenting the same irregularities, together with absence of the vagina. Usually, when I have found the uterus, ovaries and tubes missing, with a normal vulva, the vagina has also been absent.

The failure upon the part of Nature to effect the normal development of tubes, ovaries and uterus from Muller's ducts in the Wolffian bodies, usually includes the vagina in the failure. Nature does not appear to pursue any order or system in these errors of development. An individual in every respect, physically and morally, so far as the latter attributes can be judged, a perfect woman, may still lack the one essential factor of femininity, the ovaries, and, instead, possess the organs which stamp the individual a man. On the other hand, numerous cases are on record of perfectly-formed women, with normal external genital organs, but lacking vagina, uterus, ovaries and tubes. The mere absence or rudimentary development of these organs need not produce any symptoms whatever, disagreeable or otherwise. Occasionally a woman will suffer from menstrual molimina, so severe and frequent in character as to render her an invalid and justify extreme measures for her relief. Nothing but the removal of the cause, the rudimentary ovaries, remains. It is sometimes difficult in these cases to find the rudimentary ovaries, as they may be situated retroperitoneally. An attempt to incite either rudimentary ovaries or uterus to growth and activity is hopeless. A double uterus and vagina may be let alone, providing each half is capable of doing its duty. The septum does not prevent intercourse, conception, or normal parturition. Women have been known to give birth, successively, to a full-grown child from each half of a double uterus and vagina. Pregnancy in the rudimentary horn of a double uterus usually terminates in early rupture and dangerous intraperitoneal hemorrhage, precisely like ectopic gestation. When one-half of a double uterus or double uterus and vagina is imperforate, the retention of menstrual blood in the closed canal will require its free opening. Stenosis and atresia of the vagina, and imperforate hymen of course require operation for surgical restoration of the calibre of the canal, and which is usually devoid of difficulty or danger.

OBSTETRICS.

UNDER THE CHARGE OF

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Statistics of the Service of the Accoucheurs of the Charite. Porals and Macé (*L'Obstetrique,* Nov. 15, 1898) give statistics for the years 1895,'96,'97, embracing 2,804 deliveries at the Charité, Paris. The following are some of the deductions: Delivered at term, 2,661; 22 shoulder presentations, 3 terminating without interference; 69 breech. The following were

the operations: Forceps application, 63; of these, in 54 cases the indication was uterine inertia. Version internal, 18; version external, 5; symphysiotomy, 10; embryotomy, 2, the indication being a dead child, shoulder presenting; perineorrhapy, 116.

The Treatment of Puerperal Fever. Martin (*Birming. Med. Review*, Jan., 1899) considers the methods of treatment that have proved efficacious in his experience. A careful bimanual examination is necessary to ascertain the severity and extent of the local inflammation. It then resolves itself into the treatment of the following conditions: (1) Endometritis, (2) salpingitis, (3) pelvic cellulitis, (4) peritonitis, either local or general. Endometritis: Thoroughly scrape out and disinfect the uterine cavity. For washing out the uterus, iodine water (3i to the pint) is recommended. A long strip of iodoform gauze is next to be carried up into the uterus to act as a drain. Salpingitis, pyosalpinx and pelvic peritonitis: Vaginal extirpation of the uterus and tubes, recommended by some, not advised, on account of the low general state. Where there is evidence of a collection of fluid behind or at the side of the uterus, the patient should be chloroformed in the lithotomy position, the pouch of Douglas should be freely opened and the collection of pus evacuated. The tubes may be palpated through the opening. If they be distended with fluid, they should be seized with forceps, drawn down and freely incised with scissors. Pelvic cellulitis: If there is no suppuration, no surgical treatment is required. Hot vaginal douches should be administered every six hours. If pus be present, operate through the vagina, opening the abscess cavity and draining. General peritonitis: Here we have to deal with a severe peritonitis, and also a severe septicemia. The prompt use of a calomel purge may save a patient's life. Most reliance is to be placed on the general treatment of suppuration. This general treatment consists of the employment of the following: Quinin by mouth, or enema, 5-gr. doses, repeated every 6 hours; cold sponging for a temperature of 105° F.; strychnin and digitalis for failing heart; alcohol, freely.

Diabetes Insipidus and Pregnancy. Vinay (*Lyon Méd.*, Nov., 1898) gives some observations on diabetes insipidus, especially in its relation to the pregnant state. The facts which show the coincidence of diabetes insipidus and pregnancy are rare, hence, interesting. Those who have studied this relationship are Mathieu, Duncan, Bennett, Dodd, Esterle. Vinay quotes two cases in which the cause was nervous shock. In the first case, before pregnancy, 25 litres of urine were passed in 24 hours. During pregnancy, the amount of urine was reduced to 5 litres per day. Pregnancy proceeded to term. In the second case, there was a decided amelioration of the symptoms after pregnancy. Diabetes insipidus is not an absolute obstacle to fecundation, especially when the disease begins after puberty. When the disease precedes puberty, the menses are apt to appear late, or not at all. This latter is not a result of the diabetes. They are both dependent upon the same cause. The influence of diabetes upon the course of pregnancy is variable. Duncan and Esterle found that, in three cases, abortion occurred at the seventh month. Other observers have seen cases go on to full

term without any difficulty. Cases have been noted where polyuria has existed with pregnancy, and where the patient's weight diminished as pregnancy advanced. Delivery in these cases was followed by gain in weight and the passage of a smaller quantity of urine.

Contribution to the Study of Curettage in Retention of the Placenta. Vanverts (*L'Echo Méd. du Nord,* Jan., 1899) strongly recommends the careful use of the curette in cases of retained placenta. This was also the opinion of Gaulard. Sixteen cases are given by the author, somewhat in detail. Satisfactory recovery followed in all of these cases, three being complicated by infection at time of operation. Unless there is some marked contraindication, general anesthesia should be employed. It can be done more completely and more quickly in this manner. In cases of metritis and endometritis, we employ general anesthesia, and we have here to deal with an endometritis. The curette is an instrument of danger in the hands of the careless. Dr. Vanverts lays down the following points for the use of the curette: It is first necessary that the cervix be dilated or dilatable. Sudden dilatation is inferior to gradual dilatation, but is sometimes necessary. Vulva and vagina are always to be disinfected. A douche is now given, as sublimate (1-5,000), to rid the uterus of the liquids which may be septic. After the hands are thoroughly prepared, the index finger is introduced into the uterine cavity. This recognizes the presence of the membranes or portions of placenta. The point of attachment is found, if possible. The next step is to introduce the curette cautiously into the uterus. It is carried to the fundus, and then the uterus is curetted from fundus to cervix. Particular care is necessary, as the uterus is enlarged and soft at this time, and but slight pressure is sufficient for perforation. If any harm is done, it is done on the ascent of the curette, not on its descent. After the operation, again flush the cavity of the uterus to remove the loose debris, and employ glycerin-iodin tampon. When the infection is old and intense, the results are not so happy, and death may result, in spite of prompt and careful treatment.

The Treatment of Quinsy. Few, if any, of the minor ailments can cause more misery than a neglected quinsy. Dr. J. A. Stucky, of Lexington, Ky., in a paper on "Peritonsillitis or Quinsy: Cause and Treatment," says that seven out of ten prominent authors mention rheumatism and gout as the most prolific causes. Dr. Stucky believes that the majority of cases, if seen within 48 hours, can be aborted; that is, suppuration prevented. He prescribes 5 to 10 grs. each of calomel and salol, followed, in 6 hours, by a saline cathartic. After purgation he gives 7½ to 10 grs. of lactophenin with 3 to 5 grs. of protonuclein, every 2 to 4 hours, until the temperature is normal. Local treatment is less important, but blocked follicles may be cleaned out with a probe, followed by an antiseptic spray. For painful deglutition, apply 10% solution of cocain and resorcin with a brush or cotton-covered probe, to the pillars of the fauces, every 2 hours, if necessary.

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The conscientious study and practice of medicine should conduce greatly to humility, since the things we do not know are still so numerous and important. Take, for instance, rheumatism, which is so prevalent at this season in our damp climate; and also the diseases that resemble it, including gout, rheumatoid arthritis, syphilitic and tubercular joint affections, and the non-traumatic forms of neuritis, involving nerves close to joints. It is by no means always possible to differentiate these certainly from one another in their earlier stages, and, as to their etiology, we are still all at sea regarding most of them, excepting, of course, those known to result from syphilis and tuberculosis. A number of investigators have reported various bacilli, diplococci, etc., as each pathogenic in the case of rheumatism. Singer (*Berlin. klin. Woch.*, No. 31, 1897) found staphylococci or streptococci in the majority of ninety-two cases of acute articular rheumatism studied by him, and in a later communication (*Wien. klin. Rundschau,* No. 36, 1897) expressed a belief that the joint symptoms are due to a toxin carried to them in the blood. In the absence of positive knowledge, all manner of theories are put forward, each in turn to be disproved and displaced by a new one of equally inconclusive character. Lactic acid, which at one time was generally accepted as the probable cause of rheumatism, is now scarcely ever mentioned in that connection, and a recent writer even claims that by administering daily forty drops of this substance, he has been able to effect a cure of rheumatoid arthritis in the case of one patient who had been confined to bed for a year and suffered with this usually incurable disease for ten years. Thus rudely in these iconoclastic times are cherished doctrines shattered and new and revolutionary methods of treatment urged upon us. Our old friend (or, rather, enemy), sciatica, which was formerly classed among the neuralgias, is now generally believed to be nearly always a neuritis, and there is a growing suspicion that most so-called neuralgic affections are not properly to be considered as functional merely, but probably a result of inflammatory or

The Rheumatoid Diseases.

degenerative processes. Indeed, they have long been held to be, more often than otherwise, a result of the rheumatic diathesis, whatever that is.

This brings us to the practical consideration that the rheumatoid affections, especially the chronic forms of them, are frequently ameliorated markedly by measures which cleanse the alimentary canal of poisonous bacterial products as well as, probably, a large proportion of the bacteria themselves. A smart mercurial purge often accomplishes much in relieving the pains and lameness, while a thorough washing-out of the colon, with even plain warm water, is usually still more effective, though a long-continued use of this method is not advisable. It is noteworthy, in this connection, that the alkalies, which were formerly mainly relied upon in such diseases, act by neutralizing the excessive acidity of the body fluids, which always results from abundant fermentation or putrefaction in the gastro-intestinal tract, while our modern salicylates, in all their various forms, probably owe their efficacy mainly to their antiseptic power.

In treating these stubborn affections, it is of primary importance to see to it that the digestive functions are properly performed, so as to prevent fermentation, and that the bowels are thoroughly evacuated. Then the urine needs to be sedulously watched. When indican, or the aromatic sulphates, are in excess, we may safely infer excessive putrefaction somewhere in the system, and generally in the bowels, though experience shows that there may be a serious degree of toxemic infection without such warning signs being present. But, probably, in all cases the total acidity of the urine will have been unduly high—often from 50 to 100—for days, if not weeks, before an outbreak of rheumatism, or of rheumatic neuritis. Whenever the urine, therefore, becomes unduly acid, it is desirable to have the patient drink larger quantities of pure, soft water between meals and take some alkaline remedy.

Dr. Ewart on Gout, Rheumatoid Arthritis, etc.

Since writing the foregoing, we have received from Dr. William Ewart, of London, the manuscript of his most interesting remarks on the rheumatoid affections, which will be found under Original Papers in the present issue of the INTERNATIONAL. They constitute a masterly discussion of the subject and shed new light of importance upon it. They emphasize strongly the importance of the fact, to which we have prominently called attention above, that the chronic joint diseases are, in some of their forms, and in their earlier stages particularly, very difficult to differentiate. The typical forms are easily diagnosticated, and as to the advanced stages of all, one could scarcely be mistaken; but, as Dr. Ewart shows, there are borderland cases concerning which even the most expert diagnosticians must remain for a time in doubt. Especially important is his advice that in the doubtful cases we should prescribe the strengthening diet and tonic medication suitable for arthritis deformans, rather than impose the depressing regimen which would be more appropriate to well-defined gout.

Early Marriages as a Cure for Social Evils.

Much discussion has been devoted lately to the subject of various proposed methods for the governmental regulation of marriage and other attempts to reform society by law. Dr. A. H. Burr read, in the section on State Medicine, at the last meeting of the American Medical Association, a paper entitled "State Regulation of Marriage for the Prevention of Communicable and Hereditary Disease." The advocates of attempts to make all men moral, upright and healthful in body and mind by legislative enactments seem to be wholly unaware of the limitations in this direction. Some of the most efficient causes of the degenerative tendencies which are apparent in modern civilized society are to be found deeply rooted in the customs and prejudices which have been growing for centuries. Prominent among these, unquestionably, is the increasing practice of celibacy and the fact that even among men who look forward to marriage as a consummation to be desired and ultimately achieved, it is becoming more and more the fashion — perhaps we should say a social necessity — to postpone it till they have become well established in life, which means often till they have reached middle age, and, even supposing that they have been so fortunate as to escape gonorrhea and syphilis, are no longer in a condition of bodily health to procreate the most robust offspring. Celibacy and deferred marriages conduce to masturbation and other forms of unnatural sexual gratification, and are the chief causes of prostitution. The resultant diseases are sapping the vigor of our most highly-civilized races.

The remedy is not to be found in still further restricting marriage by vexatious governmental regulations, no matter how beneficent the intent, since this would increase the vicious alternatives above mentioned, and thus aggravate the disease. Let our would-be reformers organize everywhere societies for the promotion of early marriages, and strive through such agencies to beget a healthier sentiment concerning the relations of the sexes toward each other. Let them by this and all other practicable means try to abolish the maudlin sentimentality that makes of woman a kind of semi-goddess, too ethereal and delicate to be permitted to bear her share of the burdens of life, and, by thus enthroning her, disqualifies her for wedding any man not endowed already with a generous income.

Physiology shows the sexes, in mankind as among the animals, under normal conditions, to be about equally endowed with muscles, nerves and physical endurance. There is no physiologic reason, therefore, why the man and the woman should not bear almost equally the burdens of maintaining the home. Even child-bearing and suckling their young do not interfere much with the activities of the females of the savage races or of the animals; and there is no sound reason under the heavens why our women of the middle and higher classes should be so dwarfed and enervated by dress, lack of exercise, confinement in close rooms, perverted mental and moral training and otherwise, as to consider themselves, and, in most cases, actually to be, frail, dependent creatures, unfit to do the work of a modern home with a

minimum of outlay for servant hire, while the poor husbands are struggling to build up a business and get established in life.

It is not among the poorer classes that the most immorality is found, and the explanation is that with them the men find real helpmeets and marry young. Let the social reformers ponder over this phase of the marriage question. If the daughters of the land, high and low, even the most refined and cultivated among them, were taught to be strong, healthful and useful women, ready to marry the men of their choice, regardless of riches, and to help their husbands, as their mothers in many instances did before them, one of the vexed social problems would rapidly be solved.

Exploded Theories. The Carlsbad Cure.

Such indefinite terms as "dyspepsia," "colic," "womb-disease," etc., are necessary for the laity who know nothing about the pathology of diseases. Physicians even may need to use them sometimes in their explanations to over-inquisitive friends of the patient, and, like "malaria" and many similar elastic expressions, they are convenient makeshifts when a satisfactory diagnosis has not yet been reached. But surely the time has come when, in communications to medical journals and in clinical lectures for the instruction of medical students, such indeterminate expressions should be discarded, or, at least, used with reference to symptoms only, and not as descriptive of definite entities.

Dyspepsia means difficult digestion, whether the discomfort takes the form of bloating, flatulent eructations, heartburn, sour risings, rumblings, the passage of gases from the bowels, distention, weight, or dragging in the abdomen after eating, or any form of pain or inconvenience which results from the ingestion or digestion of food or drink. These symptoms may concern the disturbances of either the secretory or motor function of the stomach, a bacterial infection of that organ, or any one of numerous inflammatory, degenerative or malignant diseases of the same — morbid processes regarding which there is now an abundance of fairly precise and reliable knowledge; or they may concern an equally large number of different diseases in the small or large intestine, liver, or pancreas, as to which we yet know far less; or, finally, they may probably result from a simple displacement of the kidneys or, much more rarely, from reflex disturbances of the gastric, hepatic, pancreatic or intestinal secretions.

As there is no one pathologic condition answering to the name dyspepsia, so many of the old theories about the origin and proper treatment of this mythical entity necessarily rest upon an unsubstantial foundation. Especially is this true of the generally accepted teaching as to the effects of alkalies and acids. For example, Dr. William Murrell, who has attained a wide reputation as an authority upon therapeutics, is quoted in a clinical lecture, recently published in the *Medical Press and Circular*, of London, as follows:

"The treatment of cases of dyspepsia usually presents no difficulty. If there are, from time to time, failures, it is from the neglect to recog-

nize certain elementary facts which are familiar enough to every one who has had much experience of out-patient work. In the treatment of dyspepsia it is necessary to remember that alkalies increase acid secretions and decrease alkaline secretions, and that acids increase alkaline secretions and decrease acid secretions. This is the keynote to the situation."

It is a satisfaction to have this mischievous old fallacy thus clearly expressed, so that it may be the more easily and certainly refuted. In delicate or sensitive persons, quite moderate doses of alkalies, taken for a comparatively short time, are liable to lessen the quantity and acidity of the gastric secretion to a marked extent. We have often seen nutrition lowered seriously in this way. Every physician who studies the results of his remedies with the aid of frequent examinations of the stomach contents, can probably duplicate this experience. Large doses for a short time even, and medium doses continued for a long time, always decrease acidity and decidedly diminish the activity of the gastric glands, whether administered before or after meals. According to our observation, persons who have recently taken a full Carlsbad cure show gastric anacidity — at least, no free hydrochloric acid can be demonstrated in their stomach contents at any stage of digestion — and sometimes, when the patient had not been previously plethoric or over robust, the gastric secretion has remained markedly deficient for years afterward. The gastric glands, in many such cases, probably never again recover their normal activity.

On the other hand, it has been of late abundantly demonstrated that hydrochloric acid is a very active, and probably the most active, stimulant to the glandular secretion of the stomach. We have observed this result repeatedly, and the subject was somewhat fully discussed in a paper entitled "The Place of Hydrochloric Acid in the Treatment of Diseases of the Stomach," which appeared in the INTERNATIONAL MEDICAL MAGAZINE for October, 1898.

Indeed, the time is coming—and it ought to be here now—when it will be considered bad practice to prescribe a course of Carlsbad, Vichy, Bedford, or any other actively alkaline water for a patient without a previous determination of the secretory power of the stomach. Moreover, in important, especially in delicate, cases, chemical analyses of the gastric contents ought to be made at intervals during such a treatment.

EDITORIAL MENTION.

ATTENTION is called to an offer of the publishers for certain back numbers of the INTERNATIONAL. It appears on advertising page xiv.

DR. W. E. FITCH, of Savannah, contributed to the *Georgia Journal of Medicine and Surgery* for March an article entitled "Bicycle Riding: Its Moral Effect upon Young Girls and Its Relation to Diseases of Women." The writer thinks that the pressure of a badly-constructed, and also of a

wrongly-adjusted, bicycle-saddle often does harm both to the morals and health of women—particularly of young girls. He advises one special make of saddle, and to have it adjusted carefully to suit each rider, but leans to the opinion that, even with these precautions, the wheel is not a good form of exercise for girls. He considers it quite as productive of pelvic disease as the sewing-machine, which is so much condemned, and insists that it causes an unsymmetrical and disproportionate development of the leg muscles, so that the limb loses "its beautiful shapeliness." Dr. Fitch's suggestions as to the importance of properly-fitted saddles are wise and timely, and it may be assumed that nowadays this is rarely neglected. The experience of most physicians is, we think, more favorable to the bicycle. It has happened to us frequently to have young lady patients cease to need our services upon beginning to exercise moderately but regularly upon the wheel. Even from the esthetic point of view, we cannot agree with Dr. Fitch. Perhaps we are deficient in the artistic sense, but we have imagined that the "shapeliness" of so much of the feminine anatomy as is revealed by the bicycle costume is enhanced by this form of exercise.

Dr. Joseph Tabor Johnson, of Washington, who enjoys at present the enviable distinction of being President of both the Southern Surgical and Gynecological Association and the American Gynecological Society, read an interesting paper at the meeting of the former body, held in Memphis, Tenn., December 8, 1898. It strikingly showed the recent remarkable change in the attitude of gynecologists with regard to the removal of the ovaries and tubes. It has been less than ten years since women were being unsexed at an alarmingly rapid rate for all sorts of actual and suspected ovarian affections. Some of these were real and serious, both organs being completely and hopelessly diseased. In other cases, one only was more or less damaged. In not a few, both ovaries were removed on suspicion, because of threatening nervous affections, such as insanity, epilepsy, etc. In other cases there was a partial involvement of one ovary, the remainder of which was sound, while the other was healthy. Yet, in all these cases, many operators removed both ovaries. Now all this is changed, and the preponderance of sentiment among gynecologists, both in Europe and America, seems to be in favor of cutting away only the diseased part of an ovary, while the sound part is saved. This practice was strongly advocated by Dr. Johnson in the paper above mentioned, entitled "The Conservative Treatment of the Diseased Ovary"; and we find, in the inaugural address of President Doran, of the Obstetrical Society of London, an abstract of which appeared in the *Medical Press* of March 8th, a similar tone of marked conservatism respecting most of the familiar gynecologic operations, which is in remarkable contrast to the doctrines held and acted upon, a few years ago. Mr. Doran, in his address, took strong ground against the removal of the ovaries for neurosis, fortifying his opinion by citing the published views of Howard Kelly and Weir Mitchell on this subject.

BOOK-REVIEWS.

THE TREATMENT OF DISEASE BY PHYSICAL METHODS. By Thomas Stretch Dowse, M.D., F.R.C.P.; Formerly Physician-Superintendent Central London Sick Asylum; President North London Medical Society, etc. New York: E. B. Treat & Co., 241-243 W. 23d St. Price, $2.75. 1899.

In the treatment of chronic diseases, the trend is more and more toward the physical methods. Massage, electricity, baths, exercise, rest, diet, etc., are coming to be recognized as generally more effective, as well as safer in the long run, than a dependence solely or mainly on drugs. The volume before us is really a revised and enlarged edition of the author's standard work, entitled "Lectures on Massage and Electricity in the Treatment of Disease." Though popular in England, this admirable exposition of a most practical and important subject has not been so well known in the United States as it ought to be. It may be as well, therefore, to give *in extenso* the themes of which the author treats in each of the sixteen valuable chapters. These include: I. Massage: Its Principles.—II. Massage: Its Method of Application.—III. Massage of the Head and Neck, and the Parts in Association Therewith.—IV. Massage and Induction, Faradic Massage of the Skin.—V. Muscle and Nerve. VI. Massage of Venous and Lymph Circulations.—VII. The Weir-Mitchell Treatment.—VIII. Massage of the Chest and Abdomen.—IX. Massage in Nervous Exhaustion, Neurasthenia, and Hysteria.—X. Massage of the Spine and Back.—XI. Massage in Joint, Bone, and Bursal Affections.—XII. Massage in Sleeplessness, Pain, Dipsomania, Morphinomania, and Melancholia.—XIII. Massage in the Wasting Diseases of Children, and in the Diseases of Sedentary, Changing, and Advanced Life.—XIV. The Nauheim or Schott Treatment in Diseases of the Heart.—XV. Electro-Physics.—XVI. Electro-Therapeutics, Motor Points.

The most important part of the book, even for physicians, is that devoted to massage. It is to be feared that there is not a sufficient appreciation by the medical profession, outside the larger cities, of the value of this method of curing chronic disease. Most books on the subject are written by masseurs who are not physicians. When the authors possess the title of M.D., it is, as a rule, nominal only, their practical work being limited, nearly always, to massage, Swedish movements, and gymnastics, exclusively. But Dowse is a clinician of large experience, as every line of his writing shows. Hence the accuracy of his observations as to the efficacy of the physical methods and the value of his suggestions and directions for the general practitioner, as well as for the specialist in chronic disease.

It was not to be expected that this work should contain a notice of the observation recently made by the editor of the INTERNATIONAL MEDICAL MAGAZINE as to the effect of abdominal massage on gastric secretion. There had scarcely been time enough. But in subsequent editions the author will doubtless call attention to the fact that deep kneading of the epigastric region is one of the most powerful stimulants to gastric secretion, and is, therefore, as strongly contraindicated in marked hyperacidity as it is indicated in deficient secretion of the gastric glands. This subject was fully discussed in a paper which appeared in the issue of this journal for January, 1898. Many of the failures of massage to accomplish good results are due to a non-recognition of these special indications.

The Nauheim treatment of cardiac disease is ably discussed, and with the author's wide experience in the physical methods, he naturally emphasizes

especially the very valuable auxiliary which massage treatment can be made to the special baths and graduated movements against resistance, in even serious cardiac cases. There is a notion prevalent to some extent in both Europe and America among physicians who have not made a large use of massage, that this form of treatment involves a peculiar danger to weak hearts, and needs to be pursued with extraordinary caution in such cases. Dr. Dowse says (p. 317): "That massage relieves an overburdened heart, we have proved both by clinical and physiologic evidence; it stimulates the vaso-motor and respiratory centers, it tends to liberate oxygen from the hemoglobin, and it must be attended by the evolution of heat, and an improved metabolism." He advises, of course, that the patient shall not be subjected to any violent strain or tension; also that the treatment in the beginning should be of a light, vibratory character, and of not more than thirty minutes' duration. It would be well for the invalids of this country, if every physician in it could be induced to obtain and study carefully this valuable work.

A New Text-Book of Mechano-Therapy, (Massage and Medical Gymnastics). By Axel V. Grafstrom, B.Sc., M.D., late Lieutenant in the Royal Swedish Army; late House Physician, City Hospital, Blackwell's Island, New York. Philadelphia, W. B. Saunders. 1899. Price, $1.

This is a veritable *multum in parvo*. In its 134 pages, supplemented by a full index, is contained an epitome of nearly everything of importance connected with the movement cure of disease. The author discards the usual French terms descriptive of the various procedures in massage, employing instead the English expressions—"palmar friction," "digital friction," "palmar kneading," "digital kneading," etc. Every physician needs to understand Mechano-Therapy, and should have either this little book or a still more complete one.

Atlas of External Diseases of the Eye. By A. Maitland Ramsay, M.D., of Glasgow. New York, The Macmillan Company. 1898. Price, $20.

This magnificent volume contains thirty full-page plates and eighteen full-page photogravures. Nearly every subject in the whole range of external diseases of the eye is included, and the more common affections are pictured several times. The illustrations are faithful clinical pictures, and are invaluable for reference. The accompanying descriptive text is most concise and graphic, and makes us anticipate the pleasure of a more extensive text from Dr. Ramsay's pen in the near future. His description of exophthalmic goiter is a masterpiece. W. L. P.

Formulaire des Medicaments Nouveaux pour 1899 (Formulary of New Medicines for 1899). Par H. Bocquillon-Limousin, pharmacien de 1re classe, laureat de l'Ecole de pharmacie de Paris. Introduction par le Dr. Huchard, medecin des hopitaux. 1 vol. in-18 de 324 pages, cartonne. 3 fr. Paris: J. B. Bailliere et Fils. 1899.

French physicians are enthusiastic therapeutists, and are usually among the first to experiment with proposed remedies. This book summarizes much information about a large number of the newer drugs, concerning the virtues of, and indications for, which we in this country are largely dependent upon such not wholly disinterested communications as are vouchsafed to us by the manufacturers or introducers of them. It is a convenient duodecimo volume of 332 pages, with a full alphabetical index. The book would have been much more useful if it had been provided also with an index of diseases, in connection with the new remedies appropriate to them.

MEDICAL NEWS AND MISCELLANY.

Changes in The Northwestern University Woman's Medical School. Dr. Marie J. Mergler has been elected dean, in place of Dr. I. N. Danforth, resigned. Dr. Danforth has been elected *dean-emeritus*. The yearly course at this school has been changed from one of two semesters to one of four semesters, of twelve weeks each, commencing the first of July, October, January and April. Three semesters will be required; the other semester will be optional. The number of regular students will be limited to 100—25 in each class. They will be admitted to competitive examination for place in class, only after having complied with the requirements of the State Board of Health.

The Seventh Congress Against Abuse of Alcohol. The Seventh Congress Against the Abuse of Alcoholic Drinks was held in Paris, April 4th to 9th, 1899, under the patronage of the Minister of Public Instruction.

American Climatological Association. The sixteenth annual meeting of the association will be held in the hall of the Academy of Medicine, No. 17 West 43d Street, New York City, on May 9th, 10th, and 11th, 1899. The sessions each day will be from 10:30 A.M. until 1:30 P.M., and from 3 until 6 P.M.

American Medical Association. The Fiftieth Annual Session will be held in Columbus, O., on Tuesday, Wednesday, Thursday and Friday, June 6th, 7th, 8th and 9th, commencing on Tuesday, at 11 A.M.

Well-Directed Charity. Private donations amounting to 200,000 roubles ($100,000) were made by a few individuals in Moscow, for the purpose of erecting a sanitarium for consumptives in that city.

The Medico-Chirurgical College Wins. The Medico-Chirurgical College (Philadelphia) petitioned Common Pleas Court No. 3 for leave to amend its charter so as to grant diplomas and degrees in dental surgery. This was resisted by the Philadelphia Dental College, on the ground of want of authority to do so. The Common Pleas Court decided in favor of the Medico-Chi., and the Dental College took an appeal from this decision. The Supreme Court, in an opinion by Justice Dean, has just confirmed the decision of the lower court, and dismissed the appeal.

Habitual Luxation of Both Patellae. Kocher reports that luxation occurs only in extension. As in most cases of congenital luxation of the patellae, the dislocation is outward and total. The operation, after Roux, consists in making an incision in the outer surface of fascia and capsular ligament, loosening the attachment of the patellar ligament and shifting it inward. A fold is made in the relaxed capsular ligament and secured with a suture. Roux also divides the vastus externus to lessen outward traction.

PRESCRIPTIONS BY NOTED THERAPEUTISTS.

ACNE AND FURUNCULOSIS.

℞ Syr. calcii lactophosph...	f ℥ iij
Ol. Morrhuae,.....	f ℥ iv
Ol. amygd. amar.,.....	m. iii
Pulv. acaciae,.....	℥ x
Aquae,.....	f ℥ i

Dose: One tablespoonful.—PURDON.

ACNE PUSTULES.

℞ Ichthyol,	
Bismuth, subnitr.,	
White precipitate,.....	āā part i
Vaselin,.....	parts x

M. S. Apply at night.—VON HEBRA and ULLMAN.

ALOPECIA.

℞ Extr. pilocarpi fl.,.....	f ℥ i
Tinct. cantharidis,.....	f ℥ iv
Lin. saponis,.....	q.s.ad f ℥ iv

M. S. Rub into the scalp daily.—BARTHOLOW.

AMENORRHEA.

℞ Pulv. columbae,	
Pulv. saffron,.....	āā 1 gm.
Ferri redacti.,.....	50 cgm.
Pulv. aloes,.....	30 cgm.

M. ft. chart. No. X. S. One or two in honey or preserves after the evening meal.—DAUCHEZ.

AMYGDALITIS.

℞ Sod. benzoat.,.....	℥ i to ℥ iv
Glycerini,	
Elix. calisayae,.....	āā f ℥ i

M. S. Teaspoonful every hour or two.—STEVENS.

AMYGDALITIS AND NON-DIPHTHERITIC ANGINAS.

℞ Salol,.....	2 gm.
Ol. amygdalae dulcis,..	4 c.c.
Syr. Simplicis,.....	30 "
Aquae destillat., ...	75 "

M. S. To be taken in three doses during the day.—EPHEMERIS.

AMYGDALITIS LACUNA.

℞ Borax,	
Potas. bromid.,.....	āā 5 parts
Ac. carbol.,.....	1 part
Glycerin,.....	50 parts
Infus. altheae,.....	450 parts

M. S. Gargle.

ANALGESIC.

℞ Codein. sulph.,.....	gr. xxxii
Spir. ammon. arom.,...	f ℥ vi
Whiskey,.....	f ℥ i
Syr. aurant. cort.,.....	f ℥ iv

M. S. One to three teaspoonsful once or twice daily.—JONES.

ANESTHESIA, LOCAL.

℞ Chloroform,.....	gtt. 150
Ether sulph.,.....	gtt. 225
Menthol,.....	gr. 15

M. S. Spray over surface. Effect lasts 2 to 6 minutes.—DOBISCH.

ANOREXIA.

℞ Tinct. cinchonae,	
Tinct. colombæ,	
Tinct. gentian,.....	āā 5 gm.
Tinct. rhei,.....	3 "
Tinct. nucis vom.,.....	2 "

M. S. Fifteen to twenty drops with each meal.—*Journal de Medecin de Paris*.

ANTHELMINTIC.

℞ Acid. salicyl.,.....	0.5
Extr. filic. maris ether.,	0.75
Pulv. acaciae,.....	7.5
Syr. simplicis,.....	50.
Ol. cinnamomi,.....	gtt. 10
Aq. destil.,.....	100 c.c.

M. S. Take before breakfast.—GUIDA.

ANTI-NEURALGIA PILL.

℞ Strychninae sulph.,....	gr. i
Quinin, sulph.,.....	℥ i
Ferri redacti.,.....	gr. xv
Extr. gentianae,.....	℥ ss

M. ft. pil No. 60. S. One three times daily.—RUFF.